

Industrial

# Standardization



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## Readers Write

### Confusion Out of Chaos

It seems that this column, in its attempt to clarify a question about the use of 16-ft lengths of lumber used in the framework of a house with an inside dimension of 16 ft, has only added greater confusion. Through some mistake on our part, "feet" and "inches" were somewhat indiscriminately applied. As shown in the last issue, Mr Lorimer (Producers' Council) replied to a question from Mr Truett (Tide Water Associated Oil Company), "As far as structural requirements are concerned, the 2 x 10-in. floor joists 16'ft O.C. can safely span a clear dimension of 16 ft." What Mr. Lorimer really said, of course, was "As far as structural requirements are concerned, the 2 x 10-in. floor joists 16 in. O.C. can safely span a clear dimension of 16 ft." We also had Mr Lorimer saying "... greater efficiency has been achieved by using 18-ft floor joists cut to 16 ft by 8 in. nominal. . . ." What Mr Lorimer actually said was "... greater efficiency has been achieved by using 18-ft floor joists cut to 16 ft 8 in. nominal. . . ." Apologies to our readers!

### Asks Standard Terminology For Safety and Efficiency

*Best's Safety Directory  
New York, New York*

Gentlemen: In compiling the material handling section of the 1948 edition of *Best's Safety Directory*, we were confronted with the problem of the many different terms used in naming that piece of equipment which bridges the distance between a freight car, truck, dock, or other location when loading or unloading.

There is no standard term universally used for this piece of equipment; but a variety of terms are being used: "dock-board," "gangplank," "transfer plate," "sheet metal," "runboard," "bridge," "sheet iron," "runway," "timeboard," "skid," "loading plate," "toe board."

It seems to me that safety and efficiency would be advanced by an ASA standardization of terminology. Individual manufacturers could then use their own brand name in addition. For instance, the word "goggles" covers all types of industrial eye protection and the instant the word "goggles" is mentioned, the article is correctly understood. There are, of course, many types and brand names, but all are classified under the term "goggles."

It occurs to me that the ASA might

## Company Members

More than 2100 companies hold membership either directly or by group arrangement through their respective trade associations

be interested in this situation to see what can be done about it.

ARTHUR C. CARRUTHERS  
*Consulting Editor*

• • • This problem has been referred to the Executive Committee of the Safety Code Correlating Committee and, because of the close relation of this subject to the project on Safety Code for Industrial Power Trucks, B56, the Executive Committee voted that the sectional committee take it under consideration. Readers of INDUSTRIAL STANDARDIZATION are invited to send in any comments or suggestions they may have regarding this subject.

### What Distinction Between "M" and "K" for "Thousand"?

*National Model Railroad Association  
Altoona, Pennsylvania*

Gentlemen: What distinction, if any, does the ASA draw between the symbol "K" and the symbol "M" for the expression "thousand"? It is my present belief that "K" is universally used in expressions related to electrical measurements, where of course it is the recognized abbreviation for "kilo." I believe that "K" has grown to have some currency with respect to other than electrical matters, but is by no means universally so used. I am under the impression that "M" is commonly and perhaps universally used in measurements in certain other fields. Any comments which you may care to offer in this relation will be gratefully received.

M. J. J. HARRISON  
*Chairman, Engineering Committee*

• • • There has as yet been no definite line of demarcation established between the symbol "K" for "kilo" and the symbol "M" for "thousand." It would appear that combinations concerned with the electrical industry usually use "K" and that most other divisions of industry use "M." This very question has been recently brought up by the international standardization body and it is hoped revisions which are going on in American Standards will help to avoid the confusion which now occurs.

### Our Front Cover

This massive press is used in the manufacture of parts of an automobile body. Courtesy of the Ford Motor Company. See page 25 for article on the new American Standard Safety Code for Power Presses, Foot and Hand Presses.

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Reg. U. S. Pat. Off.

Ruth E. Mason, Editor

Janet Meldon, Assistant Editor

Standardization is dynamic, not static. It means  
not to stand still, but to move forward together.

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# Flanders, Keating Introduce Bills For ASA Federal Charter

**B**ILLS providing for a Federal charter for the American Standards Association are now before the Congress of the United States. They were introduced in the House of Representatives May 10 by Representative Kenneth B. Keating of New York and in the Senate by Senator Ralph Flanders of Vermont, and have been referred to the House and Senate Committees on the Judiciary.

Authorization for the ASA Board of Directors to proceed with incorporation of the American Standards Association was granted by the adoption of an amendment to the ASA Constitution completed in April. Representatives of the ASA Member-Bodies, at a meeting May 5, instructed the Board not only to act at once to incorporate the Association under a state charter but also to proceed with necessary negotiations for a Federal charter. Steps to incorporate under the laws of the State of New York are in process.

Incorporation under either state or Federal laws will automatically relieve the members of the Board of Directors and the Member-Bodies of individual responsibility for actions of the Association. As explained by Representative Keating in his presentation of the bill to the House:

"Incorporation is sought at the present time to provide proper safeguards for the conduct of an operation which currently amounts to \$600,000 a year. Incorporation under a Federal charter is sought because it alone can insure the protection of the name 'American Standard,' and the continued full participation of Government departments and agencies."

The policy under which the Congress would grant a Federal charter to the ASA is stated in the opening paragraph of the bill:

"... recognizing an increasing need of standards to facilitate the operation of commerce and industry and the functioning of government, and to promote the public welfare, it is hereby declared to be the policy of Congress to encourage the voluntary development and use of technical and commercial standards representing a national consensus of all parties directly interested, such as is brought about through the procedures of the American Standards Association, incorporated herein, so as to unify the standards and specifications of both Government and industry and increase the flow of goods in interstate and foreign commerce."

The objects and purposes of the incorporated Association are defined as follows:

"... to operate exclusively as a nonprofit educational and scientific organization, and, in connection therewith, to assemble and diffuse knowledge concerning the standardization of measurements, materials, products, methods, operations, and nomenclature; to study, approve, and promote the use of suitable and desirable standards; to provide systematic means by which organizations concerned with standardization work may cooperate in creating and developing such standards so that they may represent a consensus of those concerned with their scope and provisions; to furnish facilities for promoting the use of such standards; to serve as a clearinghouse for information on standardization work in the United States and foreign countries; and to cooperate with the Government of the United States, and with other organizations, in standardization matters, including cooperation in international standardization matters."

One of the powers granted in the proposed charter provides that the Association shall "have the sole and exclusive right to use, and to authorize the use of the term 'American Standard' in connection with the development, use, or promotion of measurements, materials, products, methods, operations, and nomenclature or standards therefor: Provided, however, That nothing in this Act shall interfere or conflict with established or vested rights, or be construed so as to prevent the republication of any standard heretofore described or designated by the term American Standard but not in a manner calculated or likely to mislead the public into believing that such standard had been approved by the American Standards Association, or to prevent the publication of any revision of such a standard, or to prevent any organization responsible for the publication of any such standard heretofore so described or designated from publishing or causing to be published any new standard in the same field with such designation. . . ."

Outstanding among the provisions of the proposed charter is the authorization for departments and agencies of the United States Government to accept membership in the American Standards Association as Member-Bodies and to designate representatives on the Board of Directors, the Standards Council, "or any committee of the American Standards Association." Although United States government departments have held membership in the Association for many years, and their representatives have taken an active part in sectional committees, it was found recently that participation by the military services in the work of any civilian organization may be illegal. This was brought to light in the reorganization of the Army, Navy, and Air Force in the Department of Defense, when it was found that a law of 1912 prohibited the military organizations from becoming members of any civilian organization. As a result, the Armed Services now have liaison rather than active membership in ASA committees. Title II of the proposed Federal charter specifically makes an exception in favor of the American Standards Association and permits all Government departments and agencies to take an active part in the work of the ASA as members provided that they are not required to pay dues or fees in connection with such membership and that they shall have no financial or legal liability in connection with the work.

Speaking on this point, Representative Keating said: "The close cooperation of Government bodies in the standardizing activities of the American Standards Association has done much to insure a full and complete understanding on the part of both Government, particularly the armed services, and American industry of the standards which are desired on the one hand, and can be met on the other. Accordingly, the work of the American Standards Association is vital to the national defense."



# New Safety Features in Code

## To Guard the Power Press

THE problem of effectively guarding the power press has been a challenge since the development of the machine. To help cope with the hazards created by the tremendous variety of operations and operating conditions, the American Standard Safety Code for Power Presses and Foot and Hand Presses, B11.1-1948, has just been issued.

This is the fourth revision of the standard, which was originally approved on November 13, 1922, under the sponsorship of the National Safety Council. When the sectional committee resumed activity in 1946 to bring the code up-to-date, the members could draw on nine years of experience with the 1937 edition. The provisions of the new standard, therefore, have been based on performance requirements to allow flexibility of application.

Presses are employed in so many branches of industry for so many different uses, that operators face a high degree of accident exposure and the injuries incurred are severe and costly. Such diverse articles as the steel parts of the modern automobile body and tiny kitchen gadgets are produced on presses. Each individual job, by its nature, establishes certain requirements for feeding and ejection. Some necessitate the operator's constant attention while others merely require his occasional presence. Material may be fed into the press by hand or by some automatic or semiautomatic device, such as

Original tests provide new data for table of dimensions for permissible openings in barrier slots and on barrier guards

**By T. O. Meisner**

### Various Factors Affect Guarding for Each Job

The problem of safeguarding the point of operation consequently rises anew with each particular job and is dependent on a variety of factors. The size, speed, and type of press; size, thickness, and kind of pieces to be worked; construction of the die; required accuracy of the finished work; skill of the operator; length of the run—all must be considered in establishing protection at each machine. It was for this reason that the committee included requirements for a number of guards and feeding methods.

Since the majority of accidents on the power press occur when workers get their hands caught between the dies by the descending ram, an effective guard must make it impossible for the operator to place or permit his hands to remain in the danger zone. Thus the method of feeding the machine evolves as the determining factor in selecting the proper type of guard for the individual press and operation. And whether the method of feeding is automatic, semiautomatic, or manual, the guarding device which is best for one may be totally impractical for another.

The dimensions for permissible openings on fixed barrier guards, which may be used on presses with any one of the three types of feed,

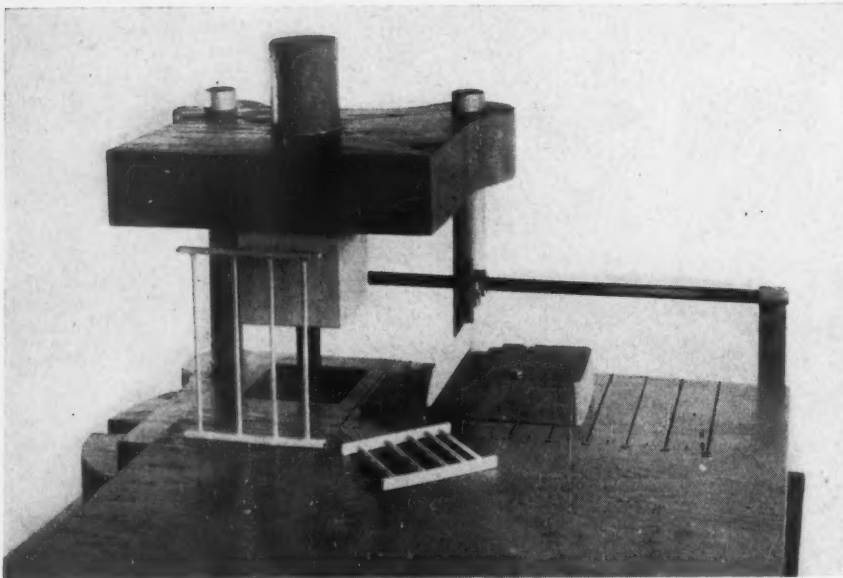
have been revised in accordance with the findings of a subcommittee appointed to study safe allowable openings in punch press guards. This subcommittee, which was headed by L. A. Faulkner representing the National Association of Mutual Casualty Companies, based its recommendations on some original work.

In order to ascertain the safety of the established maximum permissible guard opening of  $\frac{3}{8}$  inch, a full-scale reproduction of a standard die was made and a punch and die mounted on this die set. On the theory that women are often employed on punch press operations and women's hands are normally smaller than men's hands, it was decided to use women for these tests. The subcommittee determined, by querying the buyer of a large department store, that a woman who wore a size  $6\frac{1}{2}$  glove would represent the average. It then proceeded to make its tests.

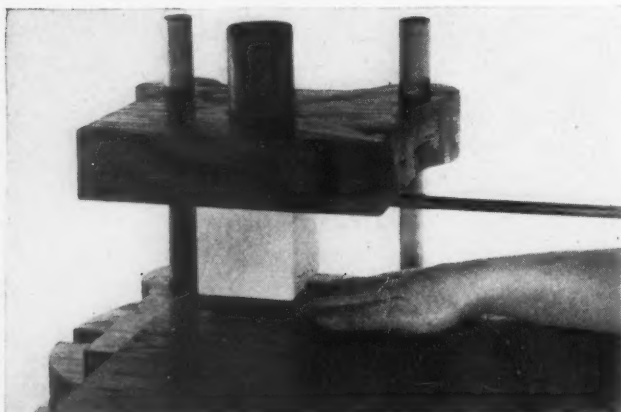
### Tests Prove $\frac{3}{8}$ -Inch Opening Inadequate for Safe Operation

It was proven conclusively that a controlled stroke opening of  $\frac{3}{8}$  inch allowed the woman's fingers to protrude into the opening for a distance of approximately  $1\frac{1}{2}$  inches, and that the same size opening in a barrier guard, up to a distance of  $1\frac{1}{2}$  inches from the nip point, was equally hazardous. As a result of the tests conducted by this subcommittee, the "minimum plunger travel" type of guarding was stricken from the code and the maximum permissible opening in the barrier slot near the nip point was lowered to  $\frac{1}{4}$  inch.

**T. O. Meisner**, Central Division Representative, Insurance Department, American Can Company, is chairman of the Sectional Committee on the Safety Code for Power Presses and Foot and Hand Presses, B11, which works under the sponsorship of the National Safety Council.



A punch and die were mounted on this full-scale reproduction of a standard die set to aid the subcommittee in studying allowable openings in guards. A subject whose hand size was that of the average woman was used for the tests.



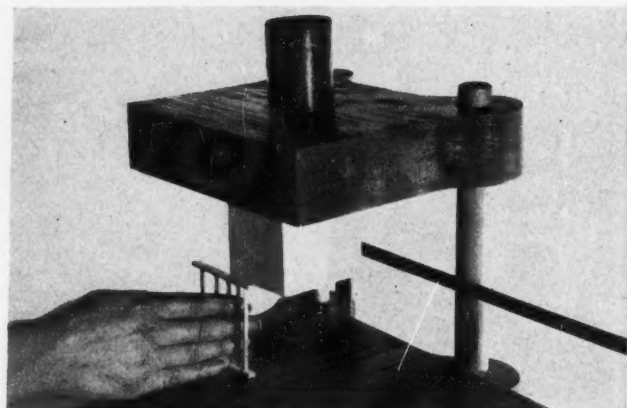
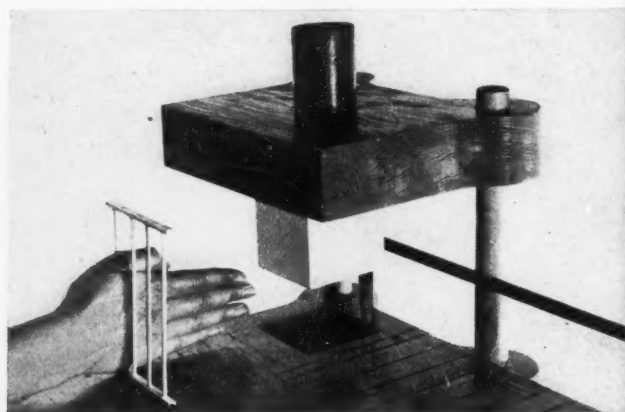
Above, top, subject's fingers protrude through a push-through type die approximately  $1\frac{1}{2}$  inches with a  $\frac{3}{8}$ -inch opening. Below, and right, allowable openings at feed zone and between vertical rods of a guard were determined with the fixtures shown.

A complete table of permissible openings in barrier slots in relation to the distance from the die was also developed on the basis of these tests made with the reproduction die set.

Requirements for gate guards, two-hand tripping devices, pull-out guards, electronic safety devices, sweep guards, and the various other methods of protecting the operator have also been reviewed and covered.

Gate guards are somewhat similar to barrier guards in that they provide a movable barrier which encloses the danger zone when the ram makes its descent. They, however, offer the operator free access to the die when the gate is in an open position. These safeguards must meet the same dimensions for openings as barrier guards.

One type of safeguard which has been applied successfully in recent years is the electronic control. It is so designed and installed that when the operator's hand is in the danger zone, a light beam is interrupted. This prevents the press from being tripped or immediately stops the ram if it is in a downward motion. This device can only be applied to the protection of presses with friction clutches or brakes adequate for stopping the press at any point of the ram stroke.



In addition to the provisions for these types of guards in the standard proper, the Appendix carries fuller discussions of the guards and lists the applications and limitations for each type so that the user may determine which would best serve him. This portion of the Appendix, as in the previous edition, is supplemented by pictures illustrating the text.

Safety in operating power presses involves more than the use of proper guarding devices at the point of operation. One section of the safety code is concerned with the requirements for press installations. Such factors as the foundation for the press, the working space and aisles, and lighting facilities have an important bearing on the safety of the operator while he is near his machine. Guards for belts, pulleys, gears, and shafts must also be in place to remove accident hazards. Adequate means of disconnecting power from the press and guards for switches and other electrical apparatus are all vital elements that are covered fully in the new standard.

Much to promote the safety of the operator can be provided by the die maker, according to the requirements listed in the standard. The method of guarding a particular operation is primarily dependent upon the method of feeding and ejecting the finished part or scrap. Therefore the die designer must consider the safety factor in the operation of the die at the time of planning a given operation.

Complex though the whole problem may be, the operation of power presses may be made relatively safe with the application of a few fundamental principles. These principles include the designing of dies to facilitate safe operations, efficient feeding and ejection methods, effective point of operation guarding, proper press maintenance, proper operator training, and careful supervision. The new American Standard Safety Code for Power Presses and Foot and Hand Presses is a guide to these principles of safety.

The American Standard Safety Code for Power Presses and Foot and Hand Presses, B11.1-1948, is available from the American Standards Association, 70 East 45th Street, New York 17, N. Y., at \$1.25.

# Company Member Conference Invites ASA Members to Join

**By H. W. Robb**

*Chairman, ASA Company Member Conference*

**W**ITH approval of new Rules of Procedure to serve as a guide to its functions and operations, the Company Member Committee has taken the new and what it believes to be more appropriate name of Company Member Conference. All ASA Company Members are invited to join the Conference and participate in the discussions and exchange of ideas on standardization problems.

Since the early days of ASA, Company Members have consistently provided substantial support to the American Standards Association. This interest has been evident in the organization of CMC. As the name indicates, the Company Member Conference serves as a forum within the ASA structure for conferences of Company Members on standards work. Basically, it is informative in nature. A simple statement of its "General Principles" as given in the Rules of Procedure is quoted below:

"The Company Member Conference consists of Company and Federal Agency members of the American Standards Association.

"The Company Member Conference, designated CMC, is established in the ASA organizational structure. It functions exclusively in an advisory and educational capacity in furtherance of the stated objectives of ASA.

"The CMC provides a two-way channel, in addition to normal channels through trade and technical associations, through which Company Members may advance to ASA, its Member-Bodies and sectional committees, their views, needs, and recommendations pertaining to the entire field of standardization. It further provides within ASA a channel direct to industry for use in the promotion of standards.

"The CMC includes, among its basic purposes, the fostering of direct contact and association between individual company representatives. It stimulates discussion and evaluation of mutual standardization problems and promotes better Company Mem-

ber knowledge and understanding of ASA procedures and standards.

"The CMC meets at least once a year or oftener, as required. The affairs of the CMC are managed by an Administrative Committee which is elected by the Conference. The Administrative Committee prepares agenda, conducts meetings, arranges for preparation and distribution of minutes, and handles other management matters, as required."

Many of the individuals who have been active in the organization of the Company Member activity are standards engineers or the persons responsible in their respective companies for the development and application of company standards. As in other lines of work, problems exist in connection with effective standards organization and procedure. Questions arise on policy in respect to development of company standards as compared to the adoption of outside standards. A need frequently exists for means of knowing more about standards that are available, their field of application, and the extent of their acceptance.

The Company Member Conference is an outgrowth of the Company Member Forum which met informally before the war.

A wide range of subjects has appeared on the agendas of CMC meetings. Information on some existing standards was recently presented to CMC by representatives of the Sectional Committees on Bolt, Nut and Rivet Proportions, Wire and Sheet Metal Gages, Classification and Designation of Surface Qualities, and Preferred Numbers. The Company Member Conference expresses its appreciation to these committees for information which they feel will help them in introducing the standards into company use.

Any Company Member of the ASA interested in the objectives of CMC may become a member by sending the name of its representative to the secretary of the Conference, H. G. Lamb, American Standards Association, 70 East 45 Street, New York 17.



# Valve and Fittings Industry Uses Standards for Savings

MSS company members produce 95 percent of valves and fittings made in United States; technical committee work is done by chief mechanical engineers, directors of research, vice-presidents in charge of engineering; standard mark insures safe use of pipe.

**By Lester Benoit**

*General Secretary, Manufacturers Standardization Society  
of the Valve and Fittings Industry*

**M**ODERN industrial methods are so complex that two producers of the same end products may use quite different processes and raw materials with marked differences in their original characteristics. These factors have a definite bearing on any standard and often determine to a large extent just how far the producer interest can go in cooperating in the development of a national standard. Through a technical organization such as the Manufacturers Standardization Society of the Valve and Fittings Industry, companies in the same industry can work on standardization problems, they can publish standards of their own and, after these standards have proved practical and acceptable to all interests, they can then be submitted as material for an American Standard. The MSS has elected to offer its standards through the sectional committee method and is administrative cosponsor with the American Society of Mechanical Engineers and the Heating, Piping & Air Conditioning Contractors National Association for the

ASA project on Pipe Flanges and Fittings, B16. Every American Standard under the ASA designation "B16" was at some time in its life an MSS standard or has been developed through the cooperation and guidance of MSS.

It is the policy of MSS to withdraw its standards after they have been approved and promulgated as an American Standard so that there will be a single source of authoritative information. The MSS continues its interest in the standard through its affiliation with the sectional committee and very often the MSS technical committees act as a task force in the initial work of revising a standard.

Perhaps the best known standards of our industry are the MSS and American Standards on pipe fittings which standardize the dimensions pertinent to interchangeable usage in pipe lines. Only the dimensions which are necessary to insure interchangeability are standardized and every other aspect of the product is left open to the individual producer's particular design. The standards cover fittings made of bronze, cast-iron, malleable-iron, and steel and in the flanged, screwed, and welding types.

The story behind the development of these standards is the one so familiar in standardization work. Many consumers, realizing the importance of safe piping, designed flanges and fittings according to their own notions, and the industry, like all others, was not without the few short-sighted fellows who made flanges to different

dimensions deliberately hoping by this means to hold favored customers. Naturally, production runs were small, and large sums were invested in patterns and tools to supply all the different requirements. Volumes of paper work and blue prints passed between the manufacturers and the consumer to make certain that the product would be made to the correct dimension. Manufacture in advance to supply consumers from distributor's stock was a gamble and customers were constantly irritated by misfits and costly shutdowns awaiting special fittings.

Since the development of our standards, manufacturers can produce in economical quantity runs and the investment in special patterns, tools, jigs, and fixtures has been reduced to a minimum. Distributors can now keep their shelves well supplied and consumers can place orders confident that the material will be the right size, fit the design requirements, and assemble with products made by other reputable manufacturers.

The valve and fittings industry has also developed a standard marking system for its products. This standard is a means of identifying the product as to construction and safe usage, and is also an indication of its qualities. In speaking of valves and fittings, I do not have in mind the usual low-pressure valve and fitting as used on the water systems in your homes and the like. I use the terms in the sense of industrial piping, such as high pressure, high-temperature steam, and piping conveying lethal gases, or other hazardous chemicals in which there is always potential danger and in which care must be exercised to make certain that the proper types of valves and fittings are used. From this point of view, our marking standard becomes somewhat of a safety device as, by means of a series of significant markings, the user is informed of material used in the vital parts of the valve, the dimensional standard to which it is made, and the pressure and temperature ratings. The location of this

NOTE: This article is abstracted from an address presented at the meeting of the Company Member Conference, Chicago, April 8. The meeting, attended by 68 representatives of ASA Company Members, also heard S. H. Watson, RCA Victor Division of the Radio Corporation of America, describe the principles to be followed in setting up a standardization program and how the RCA Standardization Division has made use of these principles. Minutes of the April 8 meeting, giving details of Mr Watson's discussion and other activities of the Conference, can be obtained from the American Standards Association.

information on the product is also standardized so that any one seeking information knows exactly where it may be found. By observing these markings, unsafe use of valves is avoided and inspectors and code authorities can tell at a glance whether proper valves and fittings have been used in the pipe installation. It has been instrumental in preventing loss of life and property damage due to improper and unsafe use of piping materials. The standard is recognized by many codifying authorities.

A good example of what a standard can contribute toward the efficiency of transacting business is our standard SP-28—MSS Drain Tapping Standard. Pipe fittings are quite frequently bossed and tapped for drip and drain connections, instrument connections, and bleed-off lines for auxiliary equipment and processes. Before MSS SP-28 was developed, the consumers usually drew sketches of the fittings showing the location and the size of tapping, or more

often, tried to describe the fitting on the face of the orders. This invariably meant that, in order to prevent mistakes, the producer had a draftsman draw up the particular fitting according to their interpretation and sent blue prints to the customer with the request that the print be approved and returned. This meant a delay of a week or ten days before the order could actually be put into the shop. MSS SP-28 standardizes the location of bosses on pipe fittings and valves and also the nomenclature to be used in designating these bosses. It is now a simple matter to handle this heretofore confusing problem. The order simply states: 10"—90° elbows with 1" IPS Tap at Location "E" MSS Standard SP-28. This simple wording erases all doubt as to what is wanted.

The fact that a company is a member of MSS or has participated in the development of its projects carries with it no understanding, commitment, or obligation to accept or ad-

here to any of our standards. Every company is free at all times to make products of special design and to profit by its inventive ability to the fullest extent. Experience has shown, however, that the members are always anxious to use the standards and the consumers invariably "jump the gun" and call for material to the standard before it is formally released.

It would seem that in an energetic industry such as ours, which has worked on standardization problems for so many years, the job should have been completed long ago. Exactly the opposite is true. In spite of the fact that MSS has the largest membership at any time in its history and has the greatest number of technical committees working, we still have one of the largest programs ahead of us, proving again a statement once made by Dr P. G. Agnew and one which I am fond of repeating—Standardization is not static—it is dynamic.

## Council Considers ASA Policies; Reviews Correlating Committee Actions

THE responsibilities of the American Standards Association to give service to its Member-Bodies and at the same time to advance the cause of standardization, and in turn the responsibilities of the Member-Bodies to the ASA, were stressed at the May 5 meeting of the Standards Council by Vice-Admiral G. F. Hussey, Jr, secretary of the ASA, and by Dr H. S. Osborne, past chairman of the Standards Council. "The staff are in existence purely and simply to render the best possible service to the ASA as a federation and to the Member-Bodies individually and collectively," Admiral Hussey told the Council. He was presented to the Council for the first time at this meeting.

Dr Osborne also pointed out the responsibility of the Association as a service organization for its Member-Bodies. "Its function," he said, "is to do the things which the Member-Bodies want to have done." However, he continued, ASA has a duty to the cause of standardization as well, resulting in a dual responsibility which in some cases may cause conflicts. One Member-Body, for example, may believe that a certain ac-

tion conflicts with its best interests, whereas the ASA may find it necessary to take this action on behalf of the cause of standardization as a whole, he explained. The Member-Bodies have a responsibility to make the Association what it should be for the best interest of the standards movement, Dr Osborne declared. This calls for tolerance toward different ways of doing the work, he said, in order to maintain within the procedures of the ASA the widest possible choice of methods for furthering the standardization movement, provided all of these methods meet the basic principle for approval of American Standards—the establishment of a national consensus.

The Council confirmed its previous decision to permit correlating committees to act as sponsors for standardization projects. However, an amendment to the bylaws is being voted on by letter ballot, making it mandatory that the judicial function of the correlating committee in such cases shall be assigned to the Board of Examination or a special committee appointed by the chairman of the Council. The Correlating Committee which serves as a sponsor there-

fore will assume the administrative functions ordinarily performed by some other organization but its functions as a correlating committee will be handled by the Board of Examination or a special committee.

Recommendations made by the Company Member Conference that the American Standard on Drawings and Drafting Practice be expanded will be sent to the sponsors, the American Society of Mechanical Engineers, and the American Society for Engineering Education, it was decided. The recommendations also proposed that the sponsors consider how to secure better coordination between industry and government in drafting practice, and recommended that any revised standard be given wide canvass as a means of bringing it into wider use.

The Council gave formal approval to recommendations made by the Board of Examination, and it reviewed the work of the Building Code Correlating Committee, the Consumer Goods Committee, the Mechanical Standards Committee, and the Safety Code Correlating Committee on personnel and scopes of standardization projects.



# ASA Plans Long-Term Financing

**A** NEW concept of association financing has been inaugurated by the American Standards Association. Designed to stabilize ASA's income, it brings the Association into line with the most recent trends in financing organizations engaged in long-range planning.

The financing program will be presented to commerce and industry by a group of business leaders cooperating with Howard Coonley, chairman of ASA's Executive Committee, former chairman of the Walworth Company and past president of the National Association of Manufacturers. This group includes: Harry A. Bullis, chairman, General Mills, Inc; Benjamin F. Fairless, president, U. S. Steel Corporation; Raymond H. Fogler, president, W. T. Grant Company; Frank M. Folsom, executive vice-president, Radio Corporation of America; A. G. Pratt, chairman, the Babcock and Wilcox Company; George P. Torrence, president, Link-Belt Company; Robert E. Wilson, chairman, Standard Oil Company of Indiana; and Harold Blanske, president, Celanese Corporation of America.

Those segments of commerce and industry deriving substantial benefits from the national clearinghouse functions of ASA in standardization activities will be asked to subscribe their fair share of ASA's budget based on actual operating costs with provision for development. To insure continuity of program, participating organizations will be urged to pledge their support for a three-year term indicating willingness to extend their pledges from year to year.

## Standardization Recognized as Basic Tool of Management

Spurred by industry's production feats in World War II, standardization has become increasingly recognized as a basic tool of management, engineering, and sales. As a practical technique for the purchasing of materials, efficient plant operation, and distribution of products, standards are opening new doors to economies of doing business.

As an indication of the emphasis placed on standardization by business executives, the budget require-

ments of the American Standards Association have grown in ten years from \$118,000 to \$600,000. The substantial increase in the membership of the ASA federation, in company memberships, in technical committees serviced by staff engineers, and in new projects, and ASA's participation in the newly formed International Organization for Standardization (ISO) has called for an accelerated program of financing. In 1945 such government agencies as the Army, Navy, WPB, and the Maritime Commission were providing \$135,000 in contracts for standardization jobs. In the same year industry subscribed \$185,000 and the ASA expended \$25,000 of its surplus. Total expenditures were approximately \$345,000.

## Wartime Projects Carried Forward And Converted for Peacetime Use

Although government financing was discontinued in keeping with ASA's policy that support should come from private sources, many of the war projects were carried forward for conversion to peacetime use. The costs involved have been absorbed into ASA's budget. In addition, at no time have adequate funds been available to ASA to enter the many fields where there is a demand for standardization projects.

Normally industrial or commercial groups requesting a project or participating in its development are not committed financially. Funds are derived from memberships of trade associations, technical societies, consumer organizations, and company memberships as well as a limited number of individual members under the following service arrangements:

**Member-Bodies.** These organizations send from one to three representatives to the Standards Council, and the ASA Board of Directors is selected from them. Their dues are based on \$500 for each representative on the Standards Council.

**Associate Members.** Standards Council meetings may be attended by their representatives even though they have no vote and Associate Members receive all material circulated to the Member-Bodies. Dues range from \$100 to \$500 annually.

**Company Members.** Dues are based on a recommended schedule set forth in ASA's Constitution of \$15 per million of annual volume of business with a minimum mem-

bership of \$50. Services are scaled to the amount of the subscription.

**Group Members.** Some industries prefer to clear their subscriptions through their respective trade associations. The members of these industry associations are serviced by the ASA as though each company held direct company membership. "Service dues" for such combined memberships are subject to negotiation.

**Individual Members.** Provision is made for membership of consulting engineers, architects, teachers, and others having no corporate affiliation. Dues are \$10 annually and provide for limited informational service.

All classes of memberships include such basic services as ASA's publication, INDUSTRIAL STANDARDIZATION, copies of newly approved standards, the use of ASA's 50,000-volume reference library, and such information facilities as ASA is frequently able to provide to assist its members in filling orders, submitting bids, or in matters of plant operation. Companies holding memberships directly or through their trade associations are privileged to participate in the Company Member Conference, a forum which encourages the interchange of experience among standards departments of company members and provides for advising the Standards Council of standardization needs not met.

## Ask Industry Support as Part of Cost of Doing Business

The committee sponsoring ASA's Long-Term Financing Plan is asking companies and associations to view their support as an essential part of the cost of doing business and to base their participation in the plan on a three-fold consideration:

First, that it is to the forward-looking self-interest of business to make adequate provision for the development of standards in an orderly fashion as a matter of vital importance in the purchase of its materials, the operation of its plants, and the sale of its products.

Second, that each industry, through its companies and trade associations, should bear its fair share in the cost of operation of the American Standards Association, thus insuring its continuous and efficient operation.

Third, that the American Standards Association is the channel through which standards of national importance can best be processed by the agencies of free enterprise.



# ASME Streamlines Standards Procedure

TO facilitate operations of 24 sectional committees working on engineering standards and seven committees working on safety standards under its sponsorship, the American Society of Mechanical Engineers has compartmented its standards work into five classifications. This move is made in anticipation of



Stanley A. Tucker

a considerably increased activity in the standards field.

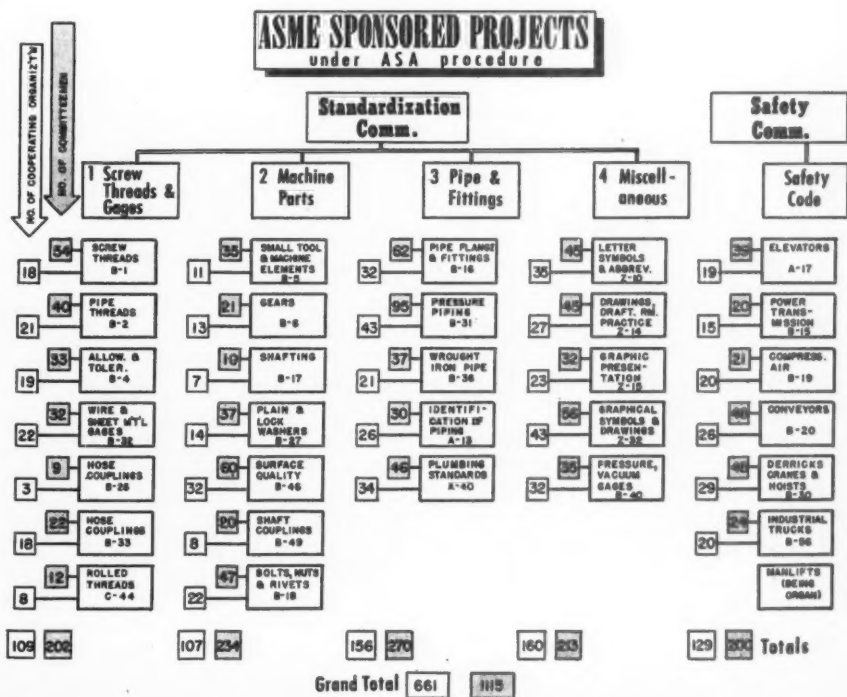
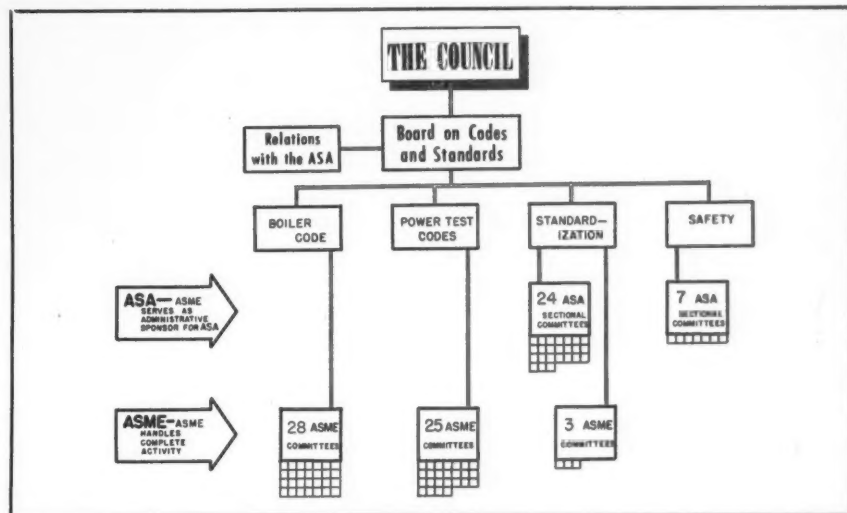
The sectional committees on engineering standards are classified under the headings Screw Threads and Gages, Machine Parts, Pipe and Fittings, and Miscellaneous (see chart below). They work under the supervision of the ASME Standardization Committee. Each classification will become the responsibility of one member of the Standardization Committee, and will be expedited by a member of the ASME staff. The sectional committees working on safety codes are under the immediate supervision of the ASME Safety Committee and are also expedited by a member of the ASME staff.

In addition to the 24 engineering sectional committees and 7 safety sectional committees under ASA procedure, for which the American Society of Mechanical Engineers is responsible, the standardization work of the Society includes the important Boiler Construction Codes, nationally recognized as the authoritative rules for materials, construction, care, and installation of boilers, and the series of nationally recognized Power Test Codes. Twenty-eight ASME committees work on the Boiler Codes and 25 on the Power Test Codes. All of these, as well as the

general relations of the ASME with the American Standards Association, are headed by the Board on Codes and Standards, which in turn reports to the ASME Council—the organization's board of directors (see chart below). Howard Coonley, chairman of the ASA Executive Committee, is chairman of the Board on Codes and Standards. This Board is made up of seven ASME members, one member of the Council, a member at large, the senior representative of the Society on the American Standards Association, and a member of the Society's Standardization, Safety, Boiler Code, and Power Test Code committees.

Further steps in the simplification of standardization procedure within ASME are anticipated by the new Standards Manager, S. A. Tucker. Many sectional committees are in need of reorganization, he has found, and some new ones are forming.

Mr Tucker comes to ASME from McGraw-Hill Publishing Company where he served as Associate Editor of *Power* for ten years and Managing Editor of *Electrical World* for a brief period. This editorial experience, following active engineering with the Consolidated Edison Company of New York, will be most useful to the standards work of the Society.



# University Builds Small Homes To Compare Construction Methods

Tests conducted by Small Homes Council indicate that more savings can be obtained from use of modular materials if builders will also apply proper assembly methods in construction.

***By James T. Lendrum***

FOR some time, the Small Homes Council of the University of Illinois has been conducting a program of testing and comparing various construction methods in the small home building field. As its "guinea pig" in this program, the Council has used the Industry-Engineered House which applies modular coordination to house design.

As described in the September 1947 issue of INDUSTRIAL STANDARDIZATION, the Industry-Engineered Housing Program, sponsored by the National Retail Lumber Dealers Association and the Producers' Council, Inc, offers a series of house plans which demonstrate how this method can be used for low- and medium-priced houses. It is estimated that the advance planning made possible through the use of such modular designs should, in itself, result in considerable saving. When the materials and equipment to be used can all be obtained in modular sizes (as some of it already can be), the fact that the houses are dimensioned in accordance with the sizes of the materials used will save considerable time in cutting and fitting at the building site and prevent costly waste of materials. In order to make the most of these possible savings, however, the program of the Small

Homes Council is designed to check on the actual construction methods used and to make recommendations for eliminating waste motion and effort.

It has been a well-accepted fact that the total cost of a job in terms of manhours of labor is directly dependent on the flow of materials to the job, the organization or management of the job, and on the construction methods that are used. Large operative builders, because they construct several hundred houses a year, have been able to achieve savings through their own precutting of lumber, preassembly

of parts, and standardization of details within their own organization. We believed that the small builder, perhaps handling only four houses in a year, could make similar savings through the use of improved construction methods and modular-coordinated materials. Therefore, the Producers' Council and the United States Department of Commerce, through its Industrial Research and Development Division of the Office of Technical Services, combined with the University of Illinois to investigate what possible savings could be most easily made without involving the use of special tools or mass-pro-



Frame House No. 3—Front walls being assembled on subfloor, east wall in place, and roof trusses in background ready to be used.

*Mr Lendrum is Associate Coordinator of the Small Homes Council at the University of Illinois.*

duced parts available only to large operators.

The Industry-Engineered House plan for the five-room, L-shaped house (shown on page 209 of the September issue) was chosen as representing the most advanced type of planning and thinking available in the industry. Being modular in plan, it was designed for the utmost economy in use of conventional materials.

### Six Houses Constructed

Our program called for the construction of six of these houses, three of frame construction and three of masonry. The houses were to be built in pairs with the second house of each group being started about the time the first house was under roof. Similarly, the third house would not be started until the second house was under roof. The project was not one in which we were building six houses at a time but one in which the lessons we learned today could be used in building another house later. A very detailed time study was kept throughout the entire project. From this, we have had exact data with which to compare two different construction methods.

The first pair of houses was started allowing the contractor to use his own methods and techniques. No attempt was made to direct or control his workmen. We answered any questions and helped to interpret the drawings and specifications. On the

second pair of houses, we specified the particular methods, tools, and assembling techniques to be used. Similarly, in the last pair, we also supervised the manner of construction and were able to profit from the lessons we learned from the first two groups of houses. At the present time, we have the first two pairs of houses completed and the third pair ready for roof.

In addition to the six houses on which we have kept this detailed time study, we built a seventh which varied only in the materials used. In this house, we are able to continue research work on the development of a low-cost heating system and are using the building for several other minor experiments, including a study of storage walls, kitchen equipment, and methods of handling solid fuels.

The man-hour comparison between the first two pairs of houses has just become available. Some rather startling results were obtained. Although both pairs were built from the same set of modular house plans, a total of approximately 25 percent saving in manhours was accomplished simply by changing the methods with which the materials were assembled.

Most of these savings can be attributed to one important decision—the fact that, by using lightweight roof trusses, it was possible to complete the exterior walls and roof with no interior bearing partitions. Minor savings came from practically every other of the 40 steps or operations required to build a house, but the

ones which are of the greatest value without exception can be traced to the use of roof trusses.

Our assembly procedure followed this pattern. After the exterior walls had been assembled on the rough floor, they were tipped up into place and the roof trusses were erected. While the carpenters proceeded with the roofing, exterior siding, windows, cornice, and gutters, the interior of the building, free from any obstructions, was turned over to the plumbing, heating, and wiring contractors. When they had finished their work, the carpenters came in and installed the dry wall construction on the entire ceiling and outside walls. The finished oak flooring was laid over the entire area and then the interior partitions were assembled and tipped up into place. I believe the reason for some of our timesaving is obvious—the carpenters were able to use

### Model Farmhouse Planned on Modular Principle

A basic plan for a model farmhouse, designed on the modular principle, has been developed by the University of Illinois. Financed by a research grant from the *Farm Journal* magazine of Philadelphia, the program was carried out by the Small Homes Council and the College of Agriculture at the University.

The plan is flexible and simple. It is a one-story house consisting of two rectangular units—one for living and cooking; the other, the sleeping and bathing area. Each unit is 16 feet wide.

In designing it, special attention was given to certain requirements considered essential in a well-planned farmhouse. Among these features are the need for a workroom, in addition to the kitchen, and an office where files and papers important to the business of farming may be kept.



Frame House No. 3—Front wall is shown here assembled on subfloor ready to apply wall sheathing.





Masonry House No. 2—Roof trusses and gable end in position, exterior view.

full-sized sheets, 4 feet by 12 feet in size, or full lengths of flooring, instead of fitting oak flooring and gypsum board around small areas of ceiling or floor.

Some of the savings which are generally anticipated in the Industry-Engineered Housing Program were not available to us in our program because the entire project is still so new. The manufacture of modular products has not yet reached the mass production stage. Therefore, for us there was none of the expected reduction in cost of material from increased demand for standard-sized units, nor were there any savings in inventories at the point of manufacture or in the dealer's yard. Our only source of cost reduction was in the actual saving of material due to elimination of waste by modular products, and reduction in manhours by the application of scientific assembly methods.

Perhaps one of the most important results of our study was the discovery of a total lack of modular planning in connection with three of the requirements in home construction—namely, plumbing, heating, and wiring—and a still greater lack of coordination between the manufacturers of these various materials. For example, the joint between the bathtub and the wall, or the register and the base, or the opening in the wall board and the electrician's box caused more trouble, delay, and manhours of labor than did a large area of wall construction. Similarly, many of the savings due to modular planning were overshadowed by the lack

of planning and control on such things as cornice and gutter.

We expected certain difficulties to arise from the fact that we were using modular or sheet materials (up to 4 feet by 12 feet in size) on both the inside and outside surfaces of a frame wall. Our houses normally were sized to use the sheet material to its full advantage on the inside grid of our wall, but on one of these houses we changed this to make the exterior material the controlling one. We found, as we had expected, that our first scheme was the superior. In masonry construction, this difficulty

is not encountered because of the small size, frequently repeating unit, where the 4-inch module is nearly the size of the unit that is used throughout the wall.

We feel also that there is a need for establishing standards of accuracy in small house construction. What are the acceptable tolerances? With sheet material very accurately cut at a factory and lumber often cut at the job and frequently subject to size variation due to moisture conditions, difficulties arise. In masonry construction, the joint was sufficiently flexible to absorb such minor errors in variation in brick size as those resulting from shrinkage, and so forth. Public acceptance will have a great deal to do with the answer to this problem. We accept knotty pine paneling where the joints are emphasized. We reject wall board unless the joints are made completely invisible. We insist on tight miter joints in trim only to admit that after one heating season the joints probably are open and the extra cost and labor wasted. These items perhaps have nothing to do with the merits of modular construction but they are items which help to determine the cost of the building.

One other important item which may be easily overlooked is the fact that, although savings are possible, they are not automatic. It was only through what has been described as extreme stubbornness on our part that we were able to achieve a 25 percent reduction in labor. It would have



Masonry House No. 2—Roof trusses and gable end in position. Roof sheathing is being installed in the picture above.

involved much less mental effort for the contractor, although ultimately it would have been more expensive for the home owner, to have built the second house with exactly the same techniques that were used in the first. None of the things which we did were completely unique or limited to this particular house. They were all

methods of procedure which the contractor or builder can use in any house.

From that standpoint, we feel that, while the program of the Industry-Engineered House and modular coordination may find favor rapidly with the large builders where architects can specify not only modular

materials but methods of construction as well, there will be need for a tremendous amount of education to show the small builder that he will be able to build more and better houses if he will not only use modular materials but will also scientifically apply the proper methods of assembling these materials.

## What's New in Building—

• • A new program for multiple dwellings which will attempt to lower cost through standardization of material and equipment and reduction of waste has been launched by the Producers' Council, Inc. The same basic principles that were used in the Industry-Engineered Housing Program<sup>1</sup> are to be applied here.

Among other things, this would call for coordination of the dimensions of the dwellings with those of standard materials because the original program aimed at the reduction of cost by means of standardized parts. The application of this method to the Industry-Engineered House has saved waste in materials and eliminated extra labor costs otherwise required to cut and fit parts at the site.

A recent survey by the Producers' Council, Inc., shows that modular materials are now available from 65 manufacturers of brick and tile, 487 concerns producing concrete masonry units, 23 producers of wood windows, 25 companies manufacturing steel windows, 2 glass block manufacturers, and 3 concerns which manufacture special window products.

As more and more manufacturers are preparing to produce their materials in coordinated sizes, the ASA sectional committee<sup>2</sup> which has been responsible for developing the standards on coordination of building materials continues to study and plan for additional modular standards. Among those under consideration are standards for wood and metal doors, solid section cellar sash, aluminum windows, precast masonry lintels, brick chimneys and fireplaces, kitchen

lintels and sills, kitchen cabinets, sinks, ranges, refrigerators, laundry equipment, toilet partitions, and shower stalls.

Those American Standards already available include:

Basis for the Coordination of Dimensions of Building Materials and Equipment, A62.1-1945

Basis for the Coordination of Masonry, A62.2-1945

Sizes for Clay and Concrete Modular Masonry Units, A62.3-1946

Sizes of Clay Flue Linings, A62.4-1947

The Producers' Council, Inc., and the American Institute of Architects are joint sponsors for the entire project.

• • Early in the year, the Joint Committee on Housing conducted hearings in Washington on all phases of the national housing problem. Part of the program was devoted to testimony on building construction codes. The American Standards Association was invited to participate in this phase of the discussion and sent representatives to explain the activities of the ASA in building code standardization.

• • A fact-finding program, financed by contributions from manufacturers of building materials and equipment, has been instituted by the newly organized Construction Industry Information Committee in the hope that it will give the public a better understanding of the building industry. Melvin H. Baker, president of the National Gypsum Company, is chairman of the committee.

• • Floor plans and elevations for six newly designed homes of masonry construction, built along modern and economical engineering principles, are published in a new planbook

entitled *Brick Engineered Homes*. It is believed that these represent the first group of engineered homes anywhere for which actual working drawings are available. The planbook may be obtained from Structural Clay Products Institute, 1756 K Street, N.W., Washington 6, D. C. at 25 cents a copy and working plans can be purchased from this same address.

### 1948 Edition of Standard For Reinforced Concrete

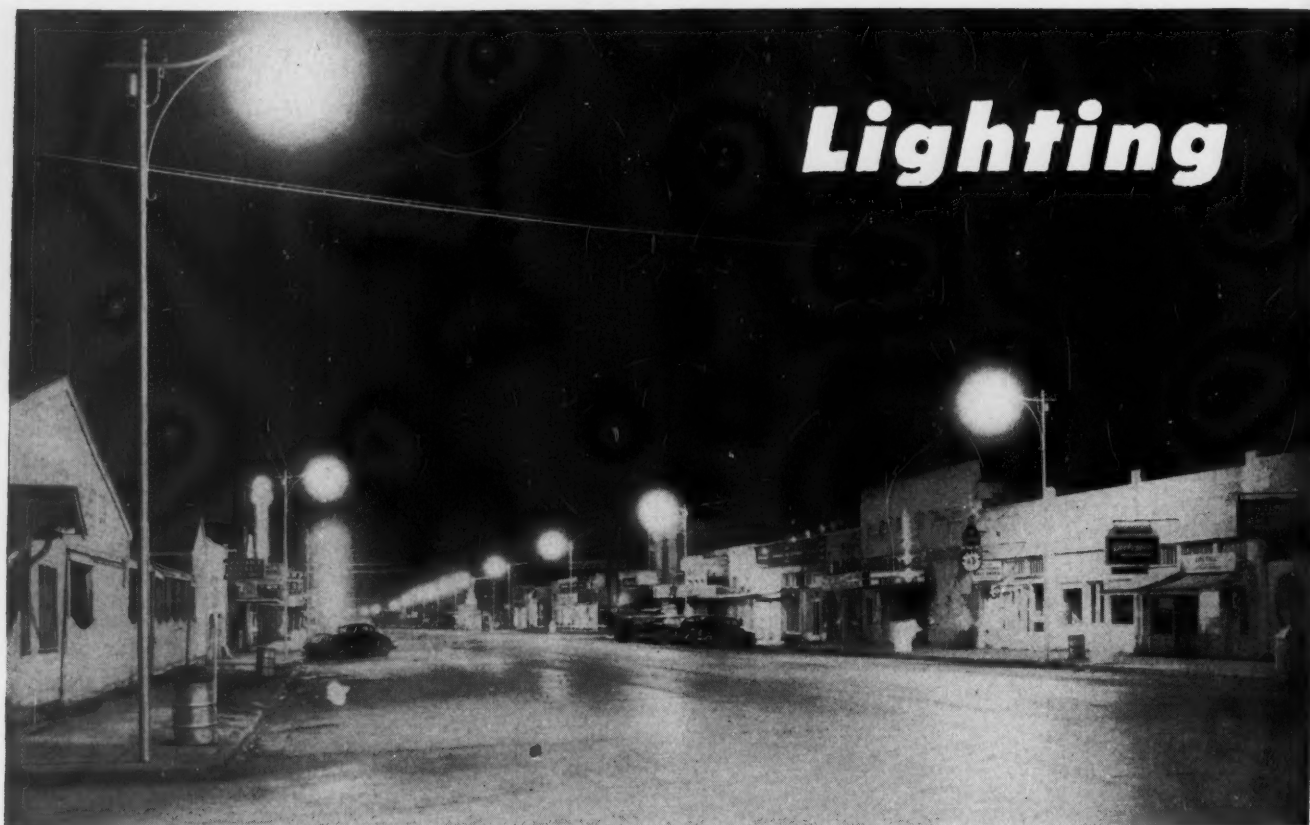
Editorial changes, which were considered desirable in order to clarify the meaning in several sections, constitute the revisions recently made in the 1946 edition of the American Standard Building Code Requirements for Reinforced Concrete. Earlier editions of this well-known standard, all developed by the American Concrete Institute, have been the basis for requirements that have been incorporated in building codes throughout the country. It is written in such a form that it may be adopted verbatim or by reference in a general building code.

The standard, which covers the proper design and construction of buildings of reinforced concrete, gives specifications for materials and tests; quality of concrete; allowable stresses; mixing, placing, curing, and cold weather protection of concrete; forms; cleaning, bending, placing, splicing, and protection of reinforcement; construction joints; general design considerations; flexural computations; shear and diagonal tension; bond and anchorage; flat slabs; columns and walls; and footings. Its new designation number is ASA A89.1-1948 (ACI 318-47).

<sup>1</sup> INDUSTRIAL STANDARDIZATION, September 1947, page 209.

<sup>2</sup> ASA Sectional Committee on Coordination of Dimensions of Building Materials and Equipment, A62.

# For Safe Street and Highway



The Fort Worth-Dallas highway is the main street of Grand Prairie, Texas, and the most heavily traveled highway in the state. Approximately 10,000 vehicles per day use this road, necessitating a high degree of traffic safety

lighting. The street lighting installation in the business section, commonly known as the "White Way," is 3,000 feet in length. Its approaches are lighted for a distance of 1 mile eastward and 1½ miles westward.

Latest revision of Illuminating Engineering Society's standard on lighting is given status of American Standard

**By Preston S. Millar**

**T**HE struggle to reduce the great number of fatalities and the large amount of damage to persons and property resulting from traffic accidents has occupied safety and traffic experts for years. They have met with a fair degree of success in that the number of such accidents is probably less than it would have been without such efforts. Yet the toll remains appallingly large and it must be expected that in the United States there will be 35,000 to

40,000 fatalities from traffic accidents during the coming year.

An outstanding aspect of the traffic accident record is the relatively large number of accidents occurring at night, despite the fact that traffic is less dense at that time. With only perhaps one third as much traffic at night, the pedestrian as well as the driver and passenger in motor cars are less safe than in the daytime. Expert study has convinced competent observers that the largest factor in

the excessive traffic accident rate at night is the inferior visibility afforded users of streets and highways. Varied and, upon the whole, rather extensive studies that have been published indicate that there is an annual loss of about 10,000 lives in the

*Preston S. Millar is president of the Electrical Testing Laboratories, Inc., and a member of the Committee on Street and Highway Lighting of the Illuminating Engineering Society which developed the American Standard Practice for Street and Highway Lighting, D12.1-1947.*



United States attributable to inferiority of visibility at night.

This problem has grown more and more important during the past twenty-five years. When the automobile ceased being a novelty and found its way into the business and recreational practices of the nation, the night use of public ways started its steady expansion. The lighting that had been once satisfactory to the strolling pedestrian and the horse and buggy had transformed the well-traveled daytime paths of vehicles into darkened roadways of lurking danger. The time had come for serious review of the whole subject of street lighting.

#### First IES Code for Street Lighting Developed in 1928

Thus it was that early in the 1920's, a committee of the Illuminating Engineering Society undertook the preparation of a code which would provide adequate illumination on streets after darkness. The committee which developed the first "Principles of Street Lighting" in 1928 was drawn from universities, consulting engineers, governmental agencies, laboratories, manufacturers, and electricity supply companies. It has continued to function and has issued five editions since then. The latest one, "Recommended Practice of Street and Highway Lighting," was published in 1945 and brings the committee's experience and study up to date. It was approved by the American Standards Association in 1947 under the Existing Standards Method, which certifies that it has been accepted by all national groups that are concerned with highway safety and street lighting. The IES is now proprietary sponsor of the project.

Since the first codes were published, the increased manufacture and use of automobiles and trucks have outdated their lighting recommendations. Not only are automotive vehicles more numerous today, but they are faster, and traffic has quickened to accommodate them. The rules and regulations that govern the motorist have also kept pace but, sadly, fixed lighting installations have generally proven inadequate for the increased volume of traffic they must serve.

Changes in the new standard are based on modern improvements in equipment and the increase in the speed and density of traffic. Electrical research is continually bringing

### Parkway Becomes Court In Unsafe Lighting Trial

The immediacy of the problem of proper illumination for streets and highways was illustrated in an incident which occurred last month on one of New York City's busiest highways.

The lighting on Grand Central Parkway in Queens, New York, was "unsafe and unsatisfactory," an ophthalmologist claimed when arrested for failing to use his dim lights, in violation of a city ordinance. The doctor, who said he had concentrated on studies of safe vision, contended that he had to drive with bright lights "to compensate for the unsafe road illumination."

After a two-hour session at which a succession of police experts testified to the efficacy of the parkway lighting, the trial magistrate decided to hear the rest of the case "in the field."

Court was set up that evening near the scene of the alleged infraction of the law, and the magistrate proceeded to judge conditions for himself. Trained by court personnel and other interested parties, the magistrate and police experts roamed the lanes with light meters to determine if the doctor's defense was valid.

Light density varied at different points, the meters showed, and some portions of the parkway were found to be inadequately lighted. After full study of the findings, the magistrate pronounced the defendant guilty, but suspended sentence. The facts of the case were presented to the proper authorities with a recommendation that lighting in the deficient areas be improved.

forth new methods and new equipment which can be applied practically and economically in lighting streets and highways. Studies in prismatic action and scientifically devised deflectors in lamps, for example, constitute an exciting challenge to manufacturers to produce luminaires which make the equipment of even twenty years ago seem obsolete.

Streets and intersections which are poorly lighted take their nightly toll at a cost which might well have been spent in providing for good visibility. Studies made in several centers throughout the country have proven this point.

In surveys made of areas that had raised their illumination values, the resulting drop in the accident and fatality rate after darkness was conclusive. Increase in illumination brought about a direct decrease in night traffic accidents up to a point where the night accidents began to run parallel to the daytime rate. This point, at which the minimum accident rate was reached, formed the basis for the figures adopted in this edition of the standard for street and highway lighting. The new illu-

mination values represent an increase since the last edition.

Proper illumination depends on many other variable factors, however, and these are all given consideration, too. Before any specific lighting problem may be solved, the density of traffic on the particular roadway must be determined, the accident experience there studied, the types and speed of the vehicles which use it evaluated. The width of the street or the number of traffic lanes, the character of the pavement surface, the grades and curves, and all the special roadway construction features are vital points which must be weighed before the proper illumination may be prescribed.

Several new factors affecting illumination values have also been introduced in the latest edition. Since exposure to accidents increases as traffic volume increases, a good lighting system must be built up from a definite plan based on a comprehensive traffic survey of the roadway under consideration. The pedestrian traffic on streets has therefore been analyzed as an element in their classification. A table recommending il-

lumination requirements for urban streets is based on the classification of pedestrian traffic as heavy, medium, and light, and the relation of these classifications to vehicular traffic classifications.

For the first time, too, typical patterns of light distribution have been introduced in the standard. Five typical candlepower distribution types of luminaire, four of them giving asymmetric distribution, are described. Equipment has been developed which now enables lighting engineers to provide illumination which will fit the contour of the street where that is desired. The new shapes of luminaires can also control glare better than had been possible in the past.

#### Raise Luminaires in Order to Minimize Effects of Glare

Glare, one of the biggest problems to be overcome in good lighting, causes reduced visibility and ocular discomfort. Raising luminaires well above the street level in order to remove them from the visual axis is one means of minimizing the effects of glare. The mounting heights for luminaires have been increased in the lighting code to afford greater accuracy of control of this factor.

The committee that developed this standard believes that it is economically feasible to provide lighting of such quality and adequacy as will reduce the night accident rate substantially to the order of that experienced in daytime.

#### Cost of Good Lighting and Cost of Night Accidents

The cost of providing such lighting is not greater than the cost of fatalities and accidents resulting from failure to do so. However, the same pocketbook does not defray both types of costs. The costs of street and highway lighting are defrayed out of governmental appropriations. Those of traffic accidents are largely defrayed otherwise. In either case, the public pays the bill. The choice is whether the payment is made for the reduction of traffic accidents with decreased loss and suffering; or for greater death compensation, medical, surgical, and hospital expenses, and damage to property. Is it better to spend money for feasible prevention, or to spend an equivalent or a larger sum for cure (when fatalities do not place cure beyond feasibility)?

There is a well-established conviction that good illumination facilitates operations, enhances safety,

conserves eyesight, and in the long run promotes economy. Rarely, however, are its beneficial effects so clearly established statistically as in the case of street and highway lighting.

The American Standard Practice for Street and Highway Lighting crystallizes the experience and thinking of a highly competent, diversified group of people who have devoted much study to this subject. It probably recommends a compromise between the grade of lighting that will assuredly reduce night traffic accident rates to those of daytime and the present practice which, with few exceptions, is much below that level. No doubt, as the art advances, this standard will be amended from time to time with closer approach to the desired attainment of the committee's objectives.

The American Standard Practice for Street and Highway Lighting, D12.1-1947, is available from the American Standards Association, 70 East 45th Street, New York 17, N. Y. for fifty cents.

## Standards Engineers Meet As Professional Society

A NEW Standards Engineers Society was organized recently in New York to serve as a professional society and to provide a forum where engineers working on standards can exchange ideas on their problems and methods. The first meeting of the Society was held in New York February 25 with 40 members present from companies in New York and New Jersey. The second meeting, April 16, featured a symposium on "The Application of Standards," with several short papers on methods used by different organizations to further the use of established standards.

Stanley Zwerling, of the Army-Navy Electrical and Electronics Standards Agency, Fort Monmouth, New Jersey, was elected temporary president, and H. R. Terhune, RCA Victor Division, Camden, New Jersey,

temporary secretary-treasurer. They will hold office until a Constitution and bylaws are adopted and permanent officers elected.

It is expected that after the Society is officially set up on a permanent basis local groups will be organized for members living outside New York.

The officers of the Society report that no attempt will be made to create standards or to influence the formulation of standards by existing trade or professional groups engaged in standardization programs.

The basic problems of standardization are much the same whether dry goods, radio components, or fire hydrants are being standardized. For this reason, the officers explained, the Society hopes to draw its members from as many different industries as possible, thus giving each member

an opportunity to study the standardization policies and methods of other industries and to apply them to his own particular problems.

The Society regards its function as a horizontal one, extending throughout industry and, as such, it will not conflict with existing professional or trade societies, Mr Terhune said. It will concern itself solely with establishing the professional status and aiding in the scientific and professional growth of the individual standards engineer, he explained.

The Society has issued its first bulletin, *Standards Engineering*, Volume 1, Number 1, Spring 1948, with minutes of the first meeting, a list of members, and the text of two papers presented at this meeting. One of these is a description of what the Army-Navy Electrical and Electronics Standards Agency is doing, by Irving L. Rosenheim. The other is a discussion of the relationship between industry and company standards by L. D. Price, manager of the Engineering and Regulatory Legislation Departments of the National Electrical Manufacturers Association.



# Weber and Miner Re-elected As Officers of SCCC

**W** F. Weber and H. L. Miner have been unanimously re-elected to serve another year as chairman and vice-chairman of the Safety Code Correlating Committee. Mr Weber, who was elected as chairman for the first time last year, is hazards engineer of the Western Electric Company, Kearny, New Jersey, and represents the ASA Telephone Group on the committee. Mr Miner is manager of the Safety and Fire Protection Division Service Department, E. I. duPont de Nemours & Company, Inc, and represents the National Fire Protection Association and the Manufacturing Chemists Association.

At its annual meeting in April, the SCCC made recommendations for reorganization of some of the work now under way and for revisions and reconsideration of some of the standards already in existence. Sponsorship for the Safety Code for Ladders, A14, the Safety Code for Walkway Surfaces, A22, the Safety Code for Compressed Air Machinery and Equipment, B19, and the Safety Code for Ladder Towers and Rolling Scaffolds, A92, was assigned to the newly organized American Society of Safety Engineers. The Society was originally the engineering section of the National Safety Council, but within the past few months has been organized as an independent society. The Society will work as cosponsor for the committee on walkway surfaces with the American Institute of Architects and for the committee on compressed air machinery and equipment with the American Society of Mechanical Engineers.

A question as to which of several committees should develop safety provisions for vertical and inclined conveyors some of which are used as passenger lifts despite the fact that they are not designed or installed for use as such was referred to a special committee. This committee is to consider whether the sectional committee on elevators, on derricks and hoists, or on conveyors and conveying equipment should develop these standards. The special committee is made up of the chairmen and secretaries of these sectional committees and representatives of the sponsor organizations. They will

submit their recommendations to the Safety Code Correlating Committee for final decision.

It was decided to discontinue the project on household ladders and to ask the Sectional Committee on Ladders, A14, to give additional consideration to specifications for ladders for household use. Committee A14

recently completed a revision of the American Standard Safety Code for Wood Ladders, A14.1-1948.

A new peacetime project on Protective Lighting of Industrial Properties, A85, has been initiated, with the National Electrical Manufacturers Association as sponsor.

The sponsor organizations have been asked to consider the possible need for revisions on the American Standard Safety Code for Gas-Mask Canisters, K13-1930; Safety Code for Paper and Pulp Mills, P1-1936; and Laundry Machinery and Operations, Z8-1941.

## Requirements Set Up for Dual Oven-Type Combination Gas Ranges

**F**OR many years, housewives have been protected against faulty gas ranges by the approval seal of the American Gas Association. This emblem on any gas-burning equipment indicates that the appliance has been tested and found to comply with the minimum standards for performance, safe operation, and substantial and durable construction as set by the American Standards developed under the sponsorship of the American Gas Association.

Manufacturers of one type of range, however, because of special construction, have found it increasingly difficult during the last few years to comply with the existing standard for domestic gas ranges.<sup>1</sup> This is the dual oven type combination gas range in which the oven section may be directly heated with gas or indirectly heated by other fuels. In addition, the supplementary section may be used to heat the space in which the range is located and also supply heat to a solid section on which cooking may be done. Such ranges are also equipped with a separate gas top section.

Since dual oven type combination gas ranges are extensively used in rural areas and many outlying areas, it was felt that special requirements should be set up to permit the approval of this equipment. Thus, with the full knowledge and

assistance of the manufacturers, a new standard<sup>2</sup> has been developed and approved under the procedure of the American Standards Association and the sponsorship of the American Gas Association.

Essentially, these requirements are designed to protect the public to the extent of making gas a safer and more economical medium of heat. The standard provides performance and construction requirements for the use of these ranges with all types of gases. In regard to performance specifications, certain sections have been set aside to deal specifically with the three main classifications—natural, manufactured, and mixed gases; liquefied petroleum gases; and butane-air gases.

The specifications cover such items as burner and pilot capacities and operating characteristics, lighters, gas valves, automatic pilots, top burner thermal efficiency, oven door relief, oven-heating capacity, oven heat distribution, rust-resisting oven interiors, wall and floor temperatures, draft hoods, and gas pressure regulators. Methods of test for each requirement are incorporated in the standard.

Of interest to housewives is the method of testing oven heat distribution. According to the standard, "the heat distribution in the oven shall be so uniform that cookies distributed in the oven, heated to 375 F, will be evenly browned in not more than 13 minutes." The standard goes on to define "evenly browned" and to provide a recipe for the cookie dough to be used in this test.

<sup>1</sup> American Standard Approval Requirements for Domestic Gas Ranges, Z21.1-1942

<sup>2</sup> American Standard Approval Requirements for Dual Oven Type Combination Gas Ranges, Z21.37-1948.





**Donald Armstrong**  
Cast Iron Pipe Research Association



**Earl H. Eacker**  
American Gas Association

## Member-Bodies Name Two New Directors to Serve on Board

**T**WO new members have been elected to the Board of Directors of the American Standards Association. Earl H. Eacker, president, Boston Consolidated Gas Company, has been nominated by the American Gas Association, while Brigadier General Donald Armstrong, executive vice-president, U.S. Pipe and Foundry Company, is the nominee of the Cast Iron Pipe Research Association.

Mr Eacker's experience in the field of public utilities dates back to 1923 when he first became associated with the Charlestown Gas and Electric Company as electrical superintendent. Having served in various capacities with this organization and with the Boston Consolidated Gas Company, he was named president of the latter group in March, 1948. In addition, he is also a director of the Old Colony Gas Company.

Over a considerable period of years, Mr Eacker has been a member of the various subcommittees of the American Gas Association's Approval Requirements Committee which prepare the standard requirements for gas-burning appliances and accessories for consideration by the general committee. This committee

is organized under the procedure of the ASA as Sectional Committee Z21.

General Armstrong needs no introduction to members of the ASA who will recall that from August 1946 until November 1947 he had been assistant to Howard Coonley, chairman of the executive committee of the American Standards Association. In assuming his new position as executive vice-president of the U.S. Pipe and Foundry Company, he also became a director and a member of its executive committee.

General Armstrong's most recent service before his retirement from the Army in August 1946 had been as Commandant of the Industrial College of the Armed Forces. Prior to this, he had also served as Chief of Maintenance, Office Chief of Ordnance, Executive Officer and Chief of the Chicago Ordnance District, and as Commanding General of the Ordnance Replacement Training Center at Aberdeen, Maryland.

**EDITOR'S NOTE:**—Information has just been received as we go to press that General Armstrong, formerly executive vice-president of the United States Pipe and Foundry Company, has been elected president of that organization.

## Sommaripa Heads ASA Consumer Work

George G. Sommaripa has joined the staff of the American Standards Association as head of the ASA work on standards for consumer goods.

Mr Sommaripa has had considerable experience in the textile industry as well as in general administration. He was vice-president and director of planning and research for the Silk Association of America from 1926 to 1933, served as assistant deputy administrator for the textile and leather industries for the National Recovery Administration in 1935, and carried out a study of the technological progress in the silk, rayon, cotton, and wool industries for the United States Department of Labor in 1936.

Following several years experience as a consulting engineer and economist, he served with the Copper Division of the War Production Board from 1942 to 1946. Here, he helped organize the "Joint CMP Committee" for the steel and copper divisions on which he also served as vice-chairman. During the last year of the war Mr Sommaripa was deputy assistant director for production for the Textile, Clothing and Leather Bureau of the War Production Board.

As a member of the staff of the American Standards Association, Mr Sommaripa will work with the national trade, consumer, technical, and governmental organizations that are sponsoring the development of national standards for products purchased over the counter.



**George G. Sommaripa**

INDUSTRIAL STANDARDIZATION

# Retail Association and Magnesia Insulation Group Become ASA Members

**I**NCREASING interest in the national standardization work in the consumer goods field was indicated during the past month with the addition of two retail organizations to the list of Member-Bodies of the American Standards Association. The Limited Price Variety Stores Association, Inc. is an entirely new member of the ASA; the National Retail Dry Goods Association has changed its status from Associate Member to Member-Body. A third Member-Body, the Magnesia Insulation Manufacturers Association, has a special interest in the work on building standards and building codes.

As Member-Bodies, these organizations have representation on the Standards Council, the top technical body in charge of all the work on standards under the procedure of the ASA—initiation of projects, personnel of committees, and approval of American Standards. They share with the other Member-Bodies the final authority for the policies and affairs of the Association, and, in rotation, have the privilege of nominating members to the Board of Directors.

The LPVSA is the national trade association for the variety trade, whose membership includes most of the larger chain store systems and more than 900 independently operated stores. This membership accounts for more than 90 percent of all the sales made through variety stores in this country.

In the ASA, the Limited Price Variety Stores Association, Inc. is particularly concerned with work in the consumer goods field. Its representatives serve on sectional committees on body sizes for boys' garments, L11; textile test methods, L14; standards for women's nylon hosiery, L21; definitions of terms used in retailing, Z36; and the general ASA correlating committee in the field, the Consumer Goods Committee.

Paul H. Nystrom, president of the Association, in discussing industrial standardization, says that the LPVSA is especially interested in how standardization can be "practically applied to low-priced consumer goods. These stores handle a large volume of both outer and under garments,



Utley W. Smith

hosiery, and shoes," Mr Nystrom continues. "The possibilities of the development of sizing standards appeals to us. Under the difficulties of the present inflationary trend, there is the need for suitable standards, especially in staple goods, so that, regardless of what the price change may be, both retail stores and con-

sumers may be assured of the qualities of the products they buy."

Members of the Magnesia Insulation Manufacturers Association include such companies as the Philip Carey Manufacturing Company, Ehret Magnesia Manufacturing Company, Johns-Manville Corporation, Keasbey and Mattison Company, and Plant Rubber and Asbestos Works.

According to Utley W. Smith, manager of the Institute, the magnesia industry expects that standardization on pipe insulation thicknesses will develop with the course of time, "and perhaps standards will be developed for the properties of magnesia and high temperature pipe insulation."

The ASA is also pleased to announce that the National Retail Dry Goods Association, active on a great number of ASA consumer goods committees and sponsor of the newly formed committee on women's dress sizes, L19, has changed its membership status from that of Associate Member to Member-Body.

## Gaillard Offers Standardization Seminar, June 21-25

The interest shown by industry in the private five-day seminar on industrial standardization given early this year by Dr John Gaillard, mechanical engineer on the ASA staff and lecturer at Columbia University, has prompted him to hold another seminar Monday through Friday, June 21 to 25, 1948, in Room 503, Engineering Societies Building, 29 West 39 Street, New York City. Each of the two daily conferences, at 9:30 A.M. and 2:00 P.M., will consist of a lecture by Dr Gaillard followed by round-table discussion. The ten lectures deal with: 1. Evolution of technical and managerial standards. 2. Analysis of essential functions of standardization. 3. Definition and characteristics of a standard. 4. The general problem of quality control. 5. Dimensional control; systems of fits. 6. Gaging inspection. 7. The four stages of standardization. 8. Or-

ganization and development of company standardization. 9. Simplification, unification, and design of standards; use of Preferred Numbers. 10. Principles and technique of formulating standards.

An outline of the lectures and details about the registration, may be obtained by writing to Dr Gaillard at his home address, 400 West 118 Street, New York 27, N. Y., or by phoning him at headquarters of the American Standards Association, Murray Hill 3-3058.

The main purpose of the seminar is to assist those interested in the organization of company standardization work and the principles and technique of writing standard specifications. These problems are important to top management, as well as to standards engineers, designers, production men, inspectors, and quality control engineers.



# Thompson and Coe Re-elected By Building Code Committee

**G**EORGE N. THOMPSON, chief of the Division of Codes and Specifications, National Bureau of Standards, has been re-elected chairman by the Building Code Correlating Committee, and Theodore I. Coe, technical secretary, American Institute of Architects, vice-chairman. Both have played an important role for many years in the work toward modernization and coordination of building codes and in the development of nationally accepted standards for use in building codes.

Increasing use of American Standard building code requirements was brought to the attention of the committee at its annual meeting in March. As a result of the Winecoff Hotel fire, for example, the State of Georgia has now adopted the Building Exits Code (A9.1-1946) by reference. The National Fire Protection Association, sponsor, has been working with authorities in Georgia to determine how the code can best be applied. The American Standard Building Code Requirements for Masonry (A41.1-1944) is also being widely used. In addition to its wide use in the United States, the South African government recently requested permission to reprint it as part of its own regulations.

Because industry is anxious to use standard requirements as soon as agreement is reached on them, the BCCC voted that whenever any part of the work of a sectional committee has been accepted by two-thirds of the committee membership, the sectional committee should release these sections for trial use, even though other sections are still being considered.

Reports from the sectional committee chairmen show the following status for those American Standards under the supervision of the Building Code Correlating Committee:

## Revisions Being Considered—

Methods of Fire Tests of Building Construction and Materials, ASTM E119-41; ASA A2.1-1947

Sponsor: American Society for Testing Materials

Building Exits Code, A9.1-1946

Sponsor: National Fire Protection Association

Administrative Requirements for Building Codes, A55.1-1944

Sponsors: American Municipal Association; Building Officials Conference of America, Inc

## Review of Existing Standards Under Way—

Building Code Requirements for Masonry, A41.1-1944

Sponsor: National Bureau of Standards, U. S. Department of Commerce

Building Code Requirements for Minimum Design Loads in Buildings and Other Structures, A58.1-1945

Sponsor: National Bureau of Standards, U. S. Department of Commerce

Requirements for Grandstands, Tents and Other Places of Outdoor Assembly, Z20.2-1946

Sponsors: Building Officials Conference of America, Inc; National Fire Protection Association

## Reaffirmation Being Considered—

Methods of Fire Tests of Door Assemblies, ASTM E152-41; ASA A2.2-1942

Sponsors: American Society for Testing Materials; Fire Protection Group; National Bureau of Standards, U. S. Department of Commerce

## Standards Under Development—

Building Code Requirements for Fire Protection and Fire Resistance, A51

Sponsors: National Board of Fire Underwriters; National Fire Protection Association; National Bureau of Standards, U. S. Department of Commerce

Building Code Requirements for Chimneys and Heating Appliances, A52

Sponsor: National Board of Fire Underwriters

Building Code Requirements for Excavations and Foundations, Z56

Sponsor: American Society of Civil Engineers

Building Code Requirements for Signs and Outdoor Display Structures, A60

Sponsors: American Municipal Association; Outdoor Advertising Association of America

Building Code Requirements for Wood, A61

Sponsors: Forest Products Laboratory, U. S. Department of Agriculture; National Lumber Manufacturers Association

## Being Considered for Submittal to ASA—

Methods of Test of Combustible Properties of Treated Wood by the Fire Tube Method, ASTM E69-47

Methods of Test of Combustible Properties of Treated Wood by the Crib Test Method, ASTM E160-46

## Project Discontinued—

Specifications for Water Cooling Towers, A63

# U. S. to Seek Responsibility For Standard Textile Tests

A delegation of twelve members appointed by national groups concerned with the manufacture, testing, processing, and distribution of textile materials will represent the American Standards Association at the first meeting of the ISO Committee on Textiles June 7 through 12. The meeting is at Buxton, England, immediately following the annual convention of the British Textile Institute. The American delegates have also been invited to attend the Institute's meetings. The delegation has been instructed by the groups representing the U. S. textile industry to request that the secretariat for the international work on textile test methods and on the definition of rayon be assigned to the United States.

Members of the delegation are:

D. E. Douty, chairman of the Board, U. S. Testing Company, designated by the American Council of Commercial Laboratories, National Federation of Textiles and the New York Board of Trade

W. D. Appel, chief, textile section, National Bureau of Standards

H. J. Ball, professor of textile engi-

neering, Lowell Textile Institute, designated by the American Society for Testing Materials

J. Robert Bonnar, technical director, General Dyestuff Corp, appointed by the American Association of Textile Chemists and Colorists

Dr Frederic Bonnet, American Viscose Corporation, designated by the American Association of Textile Technologists, Inc

Dr George Buck, National Cotton Council

Dr Carl Conrad, chemist, Southern Regional Research Laboratory, designated by the Bureau of Agricultural and Industrial Chemistry of the U. S. Department of Agriculture

Julius B. Goldberg, research director, J. P. Stevens & Company, designated by National Federation of Textiles, N. Y. Board of Trade, and the Textile Research Institute

Vice-Admiral G. F. Hussey, Jr, secretary, American Standards Association

Edward T. Pickard, secretary, Textile Foundation

A. G. Scroggie, supervisor, Rayon Analytical Research Laboratory, E. I. du Pont de Nemours & Company, designated by American Society for Testing Materials

Dr D. L. Worf, Director of Naval Research, designated by U. S. Navy



# Standards on Photographic Lenses

## To Aid in Purchase and Use

Precise answers to many problems in photography are provided by these definitions of focal lengths, terms relating to diaphragm opening, and parts of a lens

**By Irvine C. Gardner**

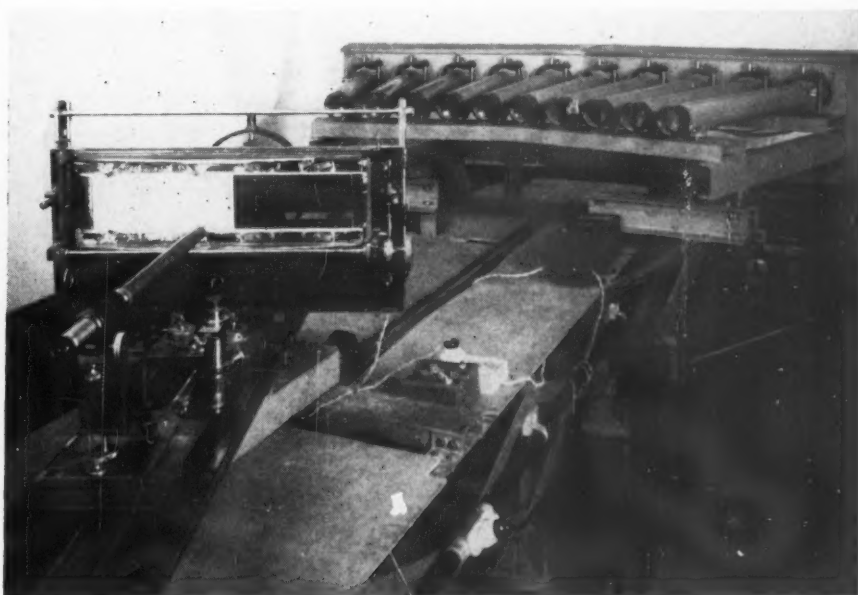
FOR the pictorial photographer, the lack of a standardized, precise method of defining focal length has caused no difficulty because, for him, the focal length is only a means of indicating approximately the size of an image that will be produced. This consideration probably explains the delay in the formulation of a precise definition of focal length. It is, however, a trend of the times for photography to become an exact engineering science, and a demand has arisen for exact definition of the several different magnitudes by which the performance of a lens is specified. This is notably the case in airplane mapping, and, under the sponsorship of the American Society of Photogrammetry with the assistance of the National Bureau of Standards, precise specifications concerning focal lengths and allowable amounts of distortion have been codified and incorporated by the Procurement Division of the Treasury Department in all mapping contracts made between the Federal Government and civilian contractors.

In the usual textbook one may find the equivalent focal length of a lens

defined as the distance from the second principal point to the principal focus. This appears to be a precise definition, and it is precise so long as the conditions of first order imagery are considered adequate. For the benefit of the nonmathematical, it may be said that the "conditions of first order imagery" are approximately fulfilled if attention is restricted to the portion of the image near the center of the field, and if the diaphragm is assumed to be closed to an almost vanishing aperture. Focal lengths of this character are usually computed by the lens de-

signer from his specifications for glass to be used, curvatures of surfaces, etc.

When the focal length of a completed lens is to be measured, many questions arise. It will be recognized at once that the computed value mentioned in the preceding paragraph cannot be accepted because the setting of tolerances and the unavoidable departures of the lens from the dimensions specified by the designer will introduce changes in the value of the focal length. In other words, the desired focal length, for precise work, must relate to the lens as actually constructed and not to the dimensions assigned by the designer. Furthermore, the equivalent focal length varies with the color of the light, and it is also well known that the position of the image surface in many satisfactory lenses varies appreciably with a change in the setting of the diaphragm. No photographic lens has a perfectly flat field, and the question arises as to whether the image surface to which the measurement is to be made shall be chosen for best axial definition



Apparatus specially designed and constructed at the National Bureau of Standards for the precise determination of focal length and the calibration of lenses and cameras for use in airplane mapping.

*Irvine C. Gardner, of the National Bureau of Standards, is a member of Subcommittee 4 on Exposing Equipment of the ASA Sectional Committee on Standardization in the Field of Photography, Z38.*

or for best average definition. Photographic literature is full of references to the focal length, and it will doubtless surprise most photographers to learn that no precise codified answers to these questions have been available in the past.

Just recently, as the result of an American Standards Association project, under the sponsorship of the Optical Society of America, with the cooperation of the National Bureau of Standards, of the manufacturers of photographic products, and other interested organizations, standards have been promulgated for use in the interpretation of specifications and to govern the purchase or use of photographic lenses. These specifications have a scope considerably more extended than the scope of the Photogrammetric Society's standards to which reference has been made.

#### Two Types of Focal Lengths of Lenses Defined

The American Standard Methods of Designating and Measuring Focal Lengths and Focal Distances of Photographic Lenses, Z38.4.21-1948, defines the focal length in terms of the size of the image of an infinitely distant object produced by the lens. Two types of focal length are defined. One of these is the equivalent focal length which, unless otherwise specified, is based upon the scale of the image near the axis of the lens in the plane of best axial definition. The other is the calibrated focal length which is based upon the average scale of the image over the entire used field measured in the plane of best average definition. This last-named focal length is particularly useful in airplane mapping or for other photometric purposes. Other terms in ordinary use, such as front focal length, back focal length, and flange focal length, are also defined.

This specification also describes methods for measuring the focal lengths in accordance with the new definitions and suggests source of illumination, photographic emulsion, and development to be used in making the tests when not otherwise specified. Methods of measurement in which the focal plane is judged visually are not recommended because experience shows that such measurements, in general, will not agree with the results obtained by photographic methods.

The American Standard Methods of Designating and Measuring Aper-

tures and Related Quantities Pertaining to Photographic Lenses, Z38.4.20-1948, defines the different terms relating to the diaphragm opening, such as clear aperture, relative aperture, aperture ratio, *f*-number, etc. It is noted that the relative aperture is a term that, strictly speaking, can be defined and utilized only to determine exposure when the lens is focused for infinitely distant objects. The aperture ratio, on the other hand, can be defined and used to correctly determine the exposure for an object at any distance. The difference between the two methods of rating a lens becomes particularly apparent when copying with the adjustment such that the object and image do not differ in size by a large factor. Methods of measuring the different terms defined are embodied in the specifications.

The American Standard Nomenclature for parts of a Photographic Objective Lens, Z38.4.19-1948, gives precise definitions by which the parts of a lens can be distinguished and

defined. It is anticipated that these specifications will be particularly useful in the formulation of patent specifications.

The American Standards described are available from the American Standards Association, 70 East 45th Street, New York 17, N. Y. Methods of Designating and Measuring Focal Lengths and Focal Distances of Photographic Lenses, Z38.4.21-1948, is 35 cents; Methods of Designating and Measuring Apertures and Related Quantities Pertaining to Photographic Lenses, Z38.4.20-1948, and Nomenclature, Parts of a Photographic Objective Lens, Z38.4.19-1948, are 25 cents each.

## Committee Officers Re-elected At Annual Meeting of CGC

AT the annual meeting of the Consumer Goods Committee in April, Robert S. Seidel, vice-president and comptroller of W. T. Grant Company, was re-elected chairman of the group, while Dr Faith M. Williams, director of the Staff on Foreign Labor Conditions, U. S. Department of Labor, was re-elected vice-chairman.

The following were elected to serve another term on the CGC Executive Committee:

Dr Anna M. Dooley, supervisor of home economics, representing the American Home Economics Association

E. M. Edgerton, director of the technical control department, Pacific Mills, representing the National Association of Finishers of Textile Fabrics

Dr Jules Labarthe, Jr, Senior Industrial Fellow, Mellon Institute of Industrial Research, representing the National Dry Goods Association

Leonard S. Little, manager of the textile service section, E. I. duPont de Nemours and Company, representing the Synthetic Chemical Manufacturers Association.

Representatives of the sheet manufacturing group attended the meeting

to discuss with members of the CGC their participation in the work on sheet standards in ASA Sectional Committee L4.

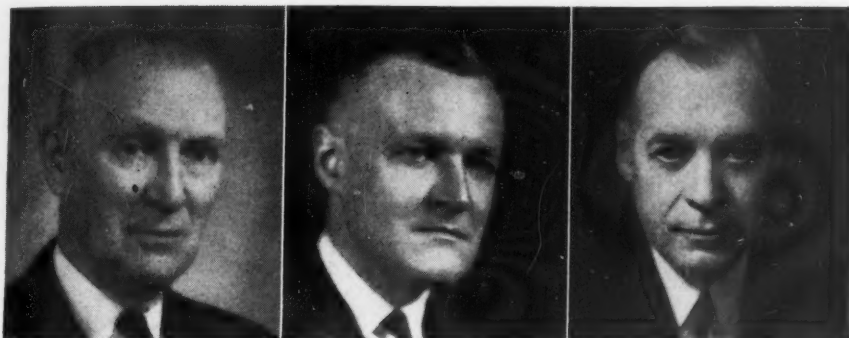
During the discussion meeting it was stated that more information is needed on tests to determine the wearing quality of the product in actual use; particularly in view of the changed methods of laundering, and in the nature of soaps and detergents used in laundering. Some of the retailer and user groups urged more work on the sheet project because of the demand for quality standards from their own constituents.

#### ASTM Soap Specifications To Be Voted on by CGC

Twelve of 20 specifications and methods of sampling of soaps and detergents submitted by the American Society for Testing Materials for approval as American Standards were found to be in the consumer field and will be voted on by the Consumer Goods Committee. The others are being referred to the Board of Examination.

# Lucien Eaton Is New Chairman Of Mining Committee

## Cooper and Tillson Are Vice-Chairmen



Lucien Eaton

M. D. Cooper

B. F. Tillson

**N**EW officers were elected by the Mining Standardization Correlating Committee at its annual meeting February 19, and a survey made of existing standards in the field and work under way. This showed the need for further action on at least one new standard and possible revision of existing standards to bring them up-to-date.

### Eaton Succeeds Harrington, Chairman for 10 Years

Lucien Eaton, consulting engineer of Milton, Massachusetts, representing the American Mining Congress, was elected chairman, succeeding Daniel Harrington, who not only is retiring as chairman of the MSCC but also plans to retire soon as chief of the Health and Safety Service of the U.S. Bureau of Mines. Mr Harrington had been chairman of the MSCC for ten years. At the meeting, the committee elected him a member-at-large in order that his broad experience and competent judgment on safety in mining operations will continue to be available to the committee. In expressing their appreciation for his long service as chairman, members of the committee declared that "all realize how fearless a fighter and how effective a leader Mr Harrington has been in the long campaign to minimize hazards in mining

operations." A resolution of thanks to Mr Harrington was adopted.

Mr Eaton has been a member of the Mining Standardization Correlating Committee since 1927. Since 1902, when he had his first industrial job as assistant engineer for the Cleveland-Cliffs Iron Company, he has had wide experience as superintendent for mining companies and as consulting mining engineer. He has helped plan the development and equipment of large metal mines in Rhodesia, Australia, Russia, Spain, Canada, Mexico, Venezuela, and Peru as well as several other Latin American countries, and the United States. During the past two years he has spent some time in China studying the Chinese iron mines for the National Resources Commission of China; in Mexico examining iron mines and other raw materials; in Turkey making reports on lead, copper, chrome, and iron mines; as well as serving as consultant for mining companies in the United States.

### Vice-Chairmen Represent Coal and Metal Mining Groups

Two vice-chairmen have been elected by the Committee, one representing the coal mining groups and the other representing the groups concerned with metal mining. B. F. Tillson, consulting engineer of

Montclair, New Jersey, representative of the American Institute of Mining and Metallurgical Engineers; is the vice-chairman for the metal-mining groups; M. D. Cooper, consulting engineer of Pittsburgh, Pennsylvania, representative of the Coal Mining Institute of America, was re-elected for the groups concerned with coal mining.

Mr Cooper has served as safety engineer for the Ford Collieries Company at Curtisville, Pennsylvania, and for many years was division superintendent for the Hillman Coal and Coke Company. He is past president of the Coal Mining Institute of America and of the National Mine Rescue Association.

Mr Tillson has been consulting mining engineer in recent years concerned with problems in the New York Subway System and consultant to the U.S. Government. Prior to that, he was for many years manager

### MSCC Votes Appreciation to Harrington

RESOLVED, That the Mining Standardization Correlating Committee wishes to extend its felicitations to Daniel Harrington and express its deep appreciation to him for his wise leadership and guidance as the Committee's chairman during the past ten years.

On the occasion of his retirement as chairman, the MSCC wishes to emphasize the value of Mr Harrington's fifty years of service to the mining industry. Those who knew him well and those who have not been so fortunate all realize how fearless a fighter and how effective a leader he has been in the long campaign to minimize hazards in mining operations.

Mr Harrington leaves us as chairman but we all are confident that he will continue to work with the MSCC and we in turn shall feel free to call on him in the future.



of the mining properties of the New Jersey Zinc Company, Franklin, New Jersey.

Members of the MSCC executive committee are:

Richard Maize, secretary, Department of Mines, Harrisburg, Pennsylvania (Mine Inspectors Institute of America)

J. J. Forbes, chief, Coal Mine Inspection Branch, and assistant chief, Health and Safety Division, Bureau of Mines, U. S. Department of the Interior (U. S. Department of the Interior)

David Stoetzel, Jr., Mining Section, Industrial Engineering Division, General Electric Company (National Electrical Manufacturers Association)

Discussion of the status of sectional committee work under the supervision of the Mining Standardization Correlating Committee showed the following:

#### Rock-Dusting Coal Mines to Prevent Coal Dust Explosions, M13-1925 (Re-affirmed 1942)—

*Sponsor:* American Institute of Mining and Metallurgical Engineers

Members of the MSCC are being asked to send in recommendations either for revision or for reaffirmation of this standard. When comments are received and compiled they will be submitted to the sponsor for consideration.

#### Safety in Quarry Operations, M28—

*Sponsor:* National Safety Council

Some work has been done toward organizing a sectional committee to prepare a standard. The MSCC believes that an up-to-date standard is needed and is asking the sponsor to expedite the organization of the committee.

#### Safety Rules for Installing and Using Electrical Equipment in Coal Mines, M2-1926—

*Sponsors:* American Mining Congress; U. S. Department of the Interior, Bureau of Mines

Changes in mining practice in the 22 years since this standard was approved have made it necessary to prepare a new edition. A draft of a proposed revision has been circulated to the sectional committee.

#### Fire Fighting Equipment in Metal Mines, M17-1930—

*Sponsors:* American Mining Congress; National Fire Protection Association

Because of the many changes in the methods and procedures used in handling fires in metal mines since the standard was approved in 1930, recommendations for revision of the standard have been submitted to the sponsor. A subcommittee is being appointed to prepare a new title and scope for the project because the mining industry wants recommendations for the prevention of fires in metal mines as well as specifications for fire-fighting equipment, discussion at the meeting indicated.

The suggestions for a suitable title and scope will be submitted to the sponsors for their consideration.

#### Safety Rules for Installing and Using Electrical Equipment in Metal Mines, M24-1932—

*Sponsor:* American Mining Congress

A draft for a proposed revision is being prepared and will soon be ready for consideration by the sectional committee.

#### Miscellaneous Outside Coal-Handling Equipment, M10-1928—

*Sponsor:* American Mining Congress

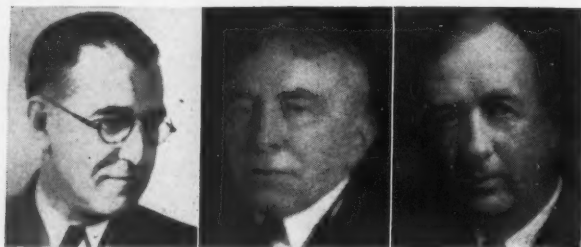
Consideration is being given as to whether it is desirable to undertake work on a revision of this standard.

#### Wire Rope for Mines, M11-1927—

*Sponsor:* American Mining Congress

No satisfactory tests or inspection procedures have yet been devised for determining when a wire rope is defective and needs replacing. For this reason it was decided to hold any recommendations for revision of the standard in abeyance until more research is done and the results made available. The problem is so important in the opinion of the committee that it was suggested it might be possible to enlist the interest of such national organizations as the American Institute of Mining and Metallurgical Engineers and the Canadian Institute of Mining and Metallurgy in bringing about more active discussion of wire ropes used in hoisting or haulage.

## ESC Reorganized and Expanded; Baker Heads Electronics Section



Left to right: Dr W. R. G. Baker; Charles Rufus Harte, chairman; and Sidney Withington.

As a further step toward expanding national standardization activities in the communications and electronics fields, the Electrical Standards Committee of the American Standards Association has been reorganized and expanded to increase the representation of the electronics group.

At a meeting of the ESC in February, Dr W. R. G. Baker, vice-president, General Electric Company, representing the Radio Manufacturers Association, was elected vice-chairman of the committee to head a new communications and electronics sec-

tion. Sidney Withington, chief electrical engineer of the New York, New Haven & Hartford Railroad Company, representing the Association of American Railroads, was re-elected vice-chairman and will head the power section.

Charles Rufus Harte of the Connecticut Company, who has been chairman of the ESC since its organization in 1931, was re-elected. Mr Harte represents the American Transit Association.

Three representatives each from the Institute of Radio Engineers and the Radio Manufacturers Association

are authorized, and representatives of the Federal Communications Commission, the Army-Navy Electronic and Electrical Standards Agency, and the Department of the Air Force have been added to the membership of the committee. In addition, two new members from the electronics group—from the Institute of Radio Engineers and the Army Electronics Standards Agency—were added to the Executive Committee.

Members of the Executive Committee of the ESC are:

L. F. Adams, General Electric Company, representing the National Electrical Manufacturers Association

P. H. Chase, chief engineer, Philadelphia Electric Company, representing the ASA Electric Light and Power Group

L. G. Cumming, technical secretary, Institute of Radio Engineers

J. J. Pilliod, assistant chief engineer, American Telephone and Telegraph Company, representing the American Institute of Electrical Engineers

Colonel L. J. Tatom, commanding officer, Army Electronics Standards Agency, representing the U. S. Department of the Army

C. R. Welborn, executive vice-president, Underwriters' Laboratories, representing the Fire Protection Group  
Mr Harte, Mr Withington, and Dr Baker are ex-officio members.

## Appointments to Standards Council

**T**HE following new appointments have been made by Member-Bodies of the American Standards Association to the Standards Council, the top group in charge of all the technical work of the Association:

### Conveyor Equipment Manufacturers Association—

*R. C. Sollenberger*, executive secretary of the CEMA, has been appointed as its representative on the Standards Council. He is a member of the Sectional Committee on Colors for Industrial Apparatus and Equipment, Z55;

*Martin J. Anderson*, chief engineer of the Mathews Conveyor Company, will serve as Mr Sollenberger's alternate on the Council. He is a member of the Sectional Committee on Safety Code for Conveyors and Conveying Machinery, B20.

### Magnesia Insulation Manufacturers Association—

*Uiley W. Smith*, manager of the MIMA, has been appointed for a three-year term ending December 31, 1950;

*H. A. Kieselbach*, general manager, Insulation Department of Johns-Manville Sales Corporation and chairman of MIMA's Technical Committee, will serve as his alternate.

### Metal Cutting Tool Institute—

*Charles M. Pond*, vice-president of Pratt & Whitney Division, Niles-Bement-Pond Company, will continue to serve as representative of the MCTI. He also represents this organization on the Mechanical Standards Committee and on the Sectional Committees on Standardization and Unification of Screw Threads, B1; Pipe Thread, B2; Allowances and Tolerances for Cylindrical Parts and Limit Gages, B4. He is a member-at-large on the Sectional Committee on Standards for Small Tools and Machine Tool Elements, B5;

*Mason Britton*, president of MCTI, will serve as his alternate. He is also an alternate on the Mechanical Standards Committee.

### National Retail Dry Goods Association—

*Robert A. Seidel*, vice-president and controller of W. T. Grant Company and chairman of the ASA's Consumer Goods Committee, will represent the NRDGA on the Standards Council for a three-year term ending December 31, 1950;

*Theodore Schlesinger*, vice-president, Allied Stores Corporation, will serve as his alternate.

### Photographic Manufacturers Group—

*V. H. Reckmeyer* of Ansco Division of General Aniline and Film Corporation has been appointed alternate for Paul Arnold. He is a member of the Sectional Committee on Standardization in the Field of Photography, Z38.

### Telephone Group—

*Frank A. Cowan*, transmission engineer of American Telephone and Telegraph Company, will succeed J. W. Campbell for his term ending December 31, 1948. He is a member of the Electrical Standards Committee and the Sectional Committee on Definitions of Electrical Terms, C42;

*Morris H. Cook*, director of Systems Engineering, Bell Telephone Laboratories, Inc., will succeed the late R. G. McCurdy for his unexpired term ending September 31, 1949.

### U. S. Department of Commerce—

*E. C. Crittenden*, associate director of the National Bureau of Standards, will continue to represent the Department of Commerce for the three-year term ending December 31, 1950. He is chairman of the Standards Council, a member of the ASA Board of Directors, the Electrical Standards Committee, and the U. S. National Committee of the International Electrotechnical Commission. He is vice-chairman

of the Sectional Committee on Electric and Magnetic Magnitudes and Units, C61; a member of the Sectional Committee on Letter Symbols and Abbreviations for Science and Engineering, Z10; and represents the Illuminating Engineering Society on the Sectional Committee on Definitions of Electrical Terms, C42;

*Edwin W. Ely*, chief of the Division of Commodity Standards of the National Bureau of Standards, replaces D. E. Parsons as representative for the term expiring December 31, 1948. He is a member of the Consumer Goods Committee and the Sectional Committees on Manhole Frames and Covers, Z35; Preferred Numbers, Z17; and Standards for Carbon, Graphite and Metal-Graphite Brushes, C64;

*D. E. Parsons*, chief, Division of Building Technology of the National Bureau of Standards, will serve as alternate in place of Dr A. T. McPherson. Mr Parsons is chairman of the Sectional Committee on Building Code Requirements and Good Practice Recommendations for Masonry, A41; a member of the Sectional Committee on Methods of Testing Road and Paving Materials, A37, and the Sectional Committee on Building Code Requirements for Reinforced Gypsum Concrete, A59. He is also an alternate on the Mechanical Standards Committee.



R. A. Seidel



M. H. Cook



F. A. Cowan



Edwin W. Ely

## National Conservation Bureau Has New Name

The National Conservation Bureau will be known in the future as the Accident Prevention Department of the Association of Casualty and Surety Companies.

J. Dewey Dorsett, general manager of the Association, in announcing the change, said that the use of the former name had created difficulties in associating the work of the Bureau with the capital stock insurance industry as it is represented by the Association of Casualty and Surety Companies. "In justice to the millions of assureds who make our existence possible and to the general public, the Association feels that it is only fair to more definitely identify our cooperative accident preven-

tion activity with its parent industry through a change in name," he said. "The title *Accident Prevention Department* should do it clearly and adequately."

This action involves nothing more than a new title, Mr Dorsett explained. The same program, policies, and administration of the department will continue.

The National Conservation Bureau has become widely known as a national safety organization. It has been represented on many of the sectional committees working under the procedure of the American Standards Association and on its correlating committees covering building, highway traffic, mining, and safety work.



# The International Organization for Standardization

## Sheet and Wire Gages—

The Standards Association of Australia has accepted the secretariat for an international project on Sheet and Wire Gages (Designations of Diameters and Thicknesses), ISO 62, which will work on coordination of "the systems of measuring and designating diameters of wire and thicknesses of sheet metal." The American Standards Association is now getting an opinion from the members of the ASA Sectional Committee on Wire and Sheet Metal Gages, B32, and its sponsor organizations as to whether American industry wants to take part in this international project. The sponsors of the committee are the American Society of Mechanical Engineers and the Society of Automotive Engineers.

## Watches and Clocks—

Organization of a project on standards for watches and clocks is being considered by the International Organization for Standardization at the request of the New Zealand Standards Institute. The Institute has been requested to prepare standard specifications as a basis for using its Standard Mark in certifying quality of watches and clocks sold in New Zealand. Since time pieces are all imported into New Zealand, the Institute is suggesting an international project.

The American Standards Association has referred this suggestion to the manufacturers of watches and clocks, the Horological Institute of America, the National Bureau of Standards, and other interested bodies for advice as to whether American industry is in favor of an international project and would be interested in taking an active part in its work.

## Gears—

A new international project on Gears, ISO 60, has now been organized, according to an announcement from the International Organization for Standardization. The Institut Belge de Normalisation, the Belgian national standardizing body, has accepted the secretariat.

A proposal that the scope of the work be "To clarify, coordinate, and unify definitions and symbols, and nominal dimensions, measuring tools for the verification of thicknesses, tolerance, and errors in the field of gears" has been referred to the ISO member national standardizing bodies for approval. The American Standards Association is now getting an opinion from the Sectional Committee on Gears, B6, and its sponsor bodies, the American Gear Manufacturers Association and the American Society of Mechanical Engineers as to whether this scope is satisfactory and whether American industry is interested in taking an active part in the project.

## Banking—

The Association Française de Normalisation (AFNOR) has recommended the formation of an ISO technical committee on standardization in the field of banking. For more than 15 years, France has devoted itself to making banking operations

simpler and safer without modifying their nature in any respect. The guiding principles behind this undertaking and which have inspired the efforts of the French Committee for Technical Studies and Banking Standardization may be summed up in the desire to simplify the work, enhance the safety of the operations and lessen expenditure by the savings effected both in paper and in the time of the staff. The French claim that the results obtained by the application of these standards are revealed in a noticeable reduction in the expenditure relating to the circulation and management of capital.

The ASA has been asked to inform the ISO secretariat as to whether the United States is in favor of such a technical committee, and, if so, whether it wishes to take an active part in the work. Organizations in this country which have a major interest in banking documents will be requested by the ASA for their recommendations.

## Drawings—

A report of the Association Suisse de Normalisation, outlining a proposed program for resumption of the work of Technical Committee ISO 10 on Drawings, has been received by the ASA. This program includes consideration of the existing international recommendations on scope made in 1940; namely,

Sizes, scales, machining indications, dimensions entered, tolerances, limits and fits, symbols for rivets and bolts, designation of threads, welding marks.

Acting in its capacity as secretariat for this project, the Swiss have asked to be informed as to whether the United States wishes to participate in the work of this committee. Copies of this report, together with a request for recommendations as to participation, have been sent to those organizations having a major interest in work on drawings. They include the American Society of Mechanical Engineers and the American Society for Engineering Education, cosponsors of the ASA Sectional Committee on Drawings and Drafting Room Practice, Z14, as well as the Society of Automotive Engineers and the Munitions Board.

## Gas Cylinders—

The British in their capacity as the secretariat have asked the ASA to consider participation in a proposed project for coordination of standards for gas cylinders. The suggested scope would be "to consider the international unification of standards for gas cylinders of not less than 12 lb water capacity for the transport of permanent, liquefiable, and dissolved gases." It is also suggested that consideration be initially confined to containers not exceeding 1000 lb water capacity. Various groups in the United States have been notified of this action by the ASA.

## Paper Sizes—

The national standards body of France (AFNOR) has accepted the secretariat for the reorganized international technical committee on Paper Sizes, ISO 6.

The committee has already prepared a document entitled "Preliminary Report of the Work of Technical Committee ISO 6, Paper Sizes," which has been sent to all of the national standards bodies affiliated with the ISO with a request that each group state its views relative to participation in the work of the committee.

To meet this request, the ASA has forwarded the report to all of those organizations in the United States having a major interest in standardization relating to paper sizes specifically and the possible extension of such work to include the whole subject of paper. These include associations of paper manufacturers, converters, publishers, printers, advertisers, lithographers, and technical bodies.

The general purpose of standardization of paper sizes is to replace those arbitrarily chosen by a well-devised system of sizes which takes account of the numerous connections between business letter paper, card-index records, filing records, and office furniture. The aim is to enable correspondence to be conducted on uniform lines, to facilitate the manufacture and sale of paper, and finally, to reduce the cost of the product.

On the agenda of a meeting scheduled for Paris, May 3-5, were the following subjects:

Study of paper-sheet sizes for commercial and administrative use;

Discussion of a paper size for ISO correspondence;

Discussion on basic details for standardization of drum width and of sheet sizes as manufactured;

Discussion on the extension of the terms of reference of Committee ISO 6, including, in particular, methods of tests and specification of qualities of paper and printed matter;

Consideration of the proposed change in title of Committee ISO 6 to "Paper."

## Scientific Glassware—

The British National Committee, which was allotted the secretariat for the project on scientific glassware and related laboratory apparatus, has contacted the ASA regarding American interest in such a project. According to ISO procedure, a technical committee will be set up if five member bodies of ISO are willing to participate in active work. The ASA has forwarded this proposal to the American Chemical Society and the Scientific Apparatus Makers of America for recommendations.

## Motion Pictures—

Seven nations have thus far expressed a desire to participate in the work on motion pictures of the International Organization for Standardization. The secretariat for this project is held by the United States. At present, the Sectional Committee on Standards for Motion Pictures, Z22, is reviewing the American Standards in the field and selecting those that it considers pertinent for international consideration.



## Pratt Appointed ISO Representative to UN

Edmund A. Pratt, New York consulting engineer, has been appointed representative of the International Organization for Standardization in its relations with the Economic and Social Council of the United Nations.

Howard Coonley, president of the ISO, in announcing this appointment, said that "this representation in New York City will not only enable the ISO to provide better service to the Economic and Social Council as one of its consultative organizations, but will also enable the ISO to better understand the needs of the countries of the world and direct its standardization activities in such a way as to make them more effective."

Mr Pratt has had close working relations with the member organizations of the ISO as a former member of the staff of the American Standards Association and has had wide experience in Europe, Asia, Africa, and South America as representative of American companies.

The Economic Commission for Europe of the United Nations has requested the ISO, as one of the specialized agencies cooperating in the work of the UN, to comment upon the general question of standardization of electrical equipment.

## From Other Countries

**Argentina**—Several of the most recent draft standards from Argentina are for electrical appliances. The wall sockets and plugs specified in these drafts are designed on the European type rather than the American.

**South Africa**—The South African Standards Bureau announces that its Standards Council, acting on recommendation of the Industrial Hygiene Committee, has decided to appoint committees to deal with the prevention of accidents—eye protection, power saws, and injury to hands and fingers; and health—dermatitis, housekeeping, toxic hazards, and breathing equipment.

**India**—Until such time as the sectional committee on quality control and industrial statistics of the Indian Standards Institution can prepare and adopt its own standards for sampling inspection and quality control, this committee has recommended that the American Standards on this subject be used in India.

The American Standards Association has granted permission for reprinting and circulating the quality control standards in India.

**China**—The Chinese National Bureau of Standards announces that the designation for its standards has been changed from CIS-Chinese Industrial Standards to CNS-Chinese National Standards. This action was taken by the Committee of Examination of Standards following an enlargement in the scope of standards covered. No longer restricted to the industrial field only, Chinese standards now include such items as agriculture, drugs, and hospital equipment as well.

**International**—The World Health Organization's committee on biological standardization is now seeking a way to produce a uniform anti-cholera vaccine. The importance of a standard vaccine was particularly emphasized when Egypt, in its recent attempt to combat a cholera epidemic, received more than 23 types of vaccine from various nations and had considerable difficulty in ascertaining their potency.

## Organize Industrial Power Truck Committee

A large and enthusiastic group of manufacturers and users of industrial power trucks met in the rooms of the American Society of Mechanical Engineers on May 20, 1948 to organize a sectional committee under ASA procedure. They will prepare a safety code to cover the manufacture and use of industrial power trucks.

Charles W. Meldram, New York District Manager of the Industrial Truck Division of Clark Equipment Company was elected chairman, and C. F. Kells, representing the Electric Industrial Truck Association, was elected secretary.

Subcommittees on Nomenclature, Operating and Traffic Rules, Industrial Power Trucks, and Power Operated Hand Trucks were assigned to develop the code material under the following scope:

"Safety requirements relating to the manufacture and use of industrial power trucks, such as platform trucks, tractors, low lift trucks, high lift trucks, fork lift trucks, and special industrial trucks, but not including commercial motor vehicles intended for use upon land highways; these safety requirements to include such factors as operating controls, brakes, steering, stability while lifting and carrying loads, maneuverability, etc."

## Swedish Standards Exhibit



More than 700 delegates attended the standardization exhibit held to commemorate the 25th anniversary of the founding of the Swedish Standards Association. This general view of one of the three exhibition halls shows, on the left, standardized equipment for housebuilding together with samples of older equipment. At right is display of office equipment standardization.

# ASA Standards Activities

## American Standards Approved Since April 1, 1948

Letter Symbols for Mechanics of Solid Bodies, Z10.3-1948 (Revision of Z10.3-1942)

**Sponsors:** American Society of Mechanical Engineers; American Association for the Advancement of Science; American Institute of Electrical Engineers; American Society of Civil Engineers; American Society for Engineering Education

Specifications and Dimensions for Wood Poles, 05.1-1948 (Revision of the following American Standards: Ultimate Fiber Stresses of Wood Poles, 05a-1933; Specifications and Dimensions for Northern White Cedar Poles, 05.1-1941; Specifications and Dimensions for Western Red Cedar Poles, 05.2-1941; Specifications and Dimensions for Chestnut Poles, 05.3-1941; Specifications and Dimensions for Southern Pine Poles, 05.4-1941; Specifications and Dimensions for Lodgepole Pine Poles, 05.5-1941; Specifications and Dimensions for Douglas Fir Poles, 05.6-1941 (all Reaffirmed 1945); and of American War Standard Specifications and Dimensions for Wood Poles—Miscellaneous Conifers, 05.7-1945)

**Sponsor:** ASA Telephone Group

## Standards Being Considered for Approval

**By the Standards Council—**

Portland Cement, A1—

Specifications for Masonry Cement, ASTM C91-44T; ASA A1.3

Method of Test for Compressive Strength of Hydraulic-Cement Mortars, ASTM C109-47; ASA A1.4

Method of Chemical Analysis of Portland Cement, ASTM C114-47; ASA A1.5

Method of Chemical Analysis of Portland Cement, ASTM C114-46T; ASA A1.6

Method of Test for Fineness of Portland Cement by the Turbidimeter, ASTM C115-42; ASA A1.7

Method of Test for Autoclave Expansion of Portland Cement, ASTM C151-43; ASA A1.8

Method of Sampling Hydraulic Cement, ASTM C183-46; ASA A1.2

Method of Test for Air Content of Portland Cement Mortar, ASTM C185-47T; ASA A1.9

Method of Test for Heat of Hydration of Portland Cement, ASTM C186-47; ASA A1.10

Method of Test for Normal Consistency of Hydraulic Cement, ASTM C187-44; ASA A1.11

Method of Test for Specific Gravity of Hydraulic Cement, ASTM C188-44; ASA A1.12

Method of Test for Soundness of Hydraulic Cement over Boiling Water (Pat Test), ASTM C189-44; ASA A1.13

Method of Test for Tensile Strength of Hydraulic Cement Mortars, ASTM C190-44; ASA A1.14

Method of Test for Time of Setting of Hydraulic-Cement by the Vicat or Gill-

more Needles, ASTM C191-44; ASA A1.15

**Sponsor:** American Society for Testing Materials

Road and Paving Materials, A37—

Specifications for Paving Brick, ASTM C7-42; AASHTO: M-40-42 and T31-42; ASA A37.15

Method of Test for Unit Weight of Aggregate, ASTM C29-42; AASHTO: T19-45; ASA A37.16

Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field, ASTM C31-44; AASHTO: T23-45; ASA A37.17

Method of Test for Compressive Strength of Molded Concrete Cylinders, ASTM C39-44; AASHTO: T22-45; ASA A37.18

Method of Test for Organic Impurities in Sands for Concrete, ASTM C40-33; AASHTO: T21-42; ASA A37.19

Method of Securing, Preparing, and Testing Specimens from Hardened Concrete for Compressive and Flexural Strengths, ASTM C42-44; AASHTO: T24-45; ASA A37.20

Method of Test for Surface Moisture in Fine Aggregate, ASTM C70-47; ASA A37.21

Method of Test for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading), ASTM C78-44; AASHTO: T97-45; ASA A37.22

Method of Test for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate, ASTM C88-46T; AASHTO: T104-46; ASA A37.23

Method of Test for Compressive Strength of Concrete Using Portions of Beams Broken in Flexure (Modified Cube Method), ASTM C116-44; ASA A37.24

Method of Test for Coal and Lignite in Sand, ASTM C123-44; AASHTO: T113-45; ASA A37.25

Method of Test for Flow of Portland-Cement Concrete by Use of the Flow Table, ASTM C124-39; AASHTO: T120-42; ASA A37.26

Method of Test for Weight per Cubic Foot, Yield, and Air Content (Gravimetric) of Concrete, ASTM C138-44; AASHTO: T121-45; ASA A37.27

Method of Test for Clay Lumps in Aggregates, ASTM C142-39; AASHTO: T112-42; ASA A37.28

Method of Slump Test for Consistency of Portland-Cement Concrete, ASTM C143-39; AASHTO: T119-42; ASA A37.29

Method of Sampling Fresh Concrete, ASTM C172-44; ASA A37.30

Method of Measuring Length of Drilled Concrete Cores, ASTM C174-44; ASA A37.31

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Method of Test for Distillation of Tar Products Suitable for Road Treatment (ASTM C136-46; ASA A37.9-1943)

Method of Test for Softening Point of Bituminous Materials, Ring-and-Ball Method (ASTM D36-26; ASA A37.10-1943)

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